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ABSTRACT

Recent trends and differentials among the Soviet Union's 15 republics and major nationalities are reviewed, focusing on fertility, mortality and urbanization, the prospect for labor supplies and military manpower, emigration, and projected population growth to 2000. Estimated at 270 million as of mid-1982, the Soviet population is currently growing at 0.8% a year, down from 1.8% in the 1950s. In 1981, the leadership instituted limited measures, partially differentiated by region, designed to raise fertility among Russians in particular. Low fertility, combined with rising mortality, is expected to reduce the Russian share of the total population from 52% in 1979 to 47% in 2000 while the share of high-fertility Muslim groups rises from 17% to 21%. Virtually all the sharply reduced national labor force growth in 1980-95 will come from the high-fertility, non-Slavic regions, a problem complicated by Central Asian Muslims' reluctance to migrate to labor-short urban areas in their own and other republics. Most capital investment now goes to defense, agriculture and energy, leaving little room for increased investment in health-care delivery, which could reduce death rates, or in housing, which might help raise fertility. Additional information is provided, supported by data presented in figures and tables. (Author/JN)

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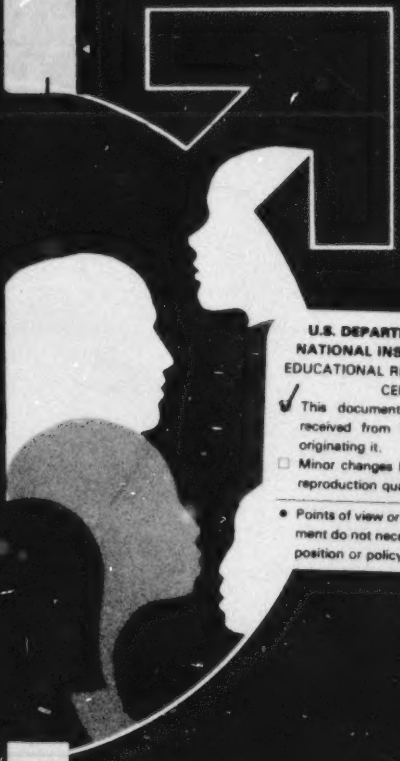
The Soviet Union: Population Trends and Dilemmas

By Murray Feshbach



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Abstract—This *Bulletin* reviews recent trends and differentials among the Soviet Union's 15 republics and major nationalities in fertility, mortality and urbanization, the prospect for labor supplies and military manpower, emigration, and projected population growth to 2000. Estimated at 270 million as of mid-1982, the Soviet population is currently growing at 0.8 percent a year, down from 1.8 percent in the 1950s. In 1981, the leadership instituted limited measures, partially differentiated by region, designed to raise fertility among Russians in particular. Low fertility, combined with rising mortality, is expected to reduce the Russian share of the total population from 52 percent in 1979 to 47 percent in 2000 while the share of high-fertility Muslim groups rises from 17 to 21 percent. Virtually all the sharply reduced national labor force growth in 1980-95 will come from the high-fertility, non-Slavic regions, a problem complicated by Central Asian Muslims' reluctance to migrate to labor-short urban areas in their own and other republics. By 2000, the share of 18-year-old males subject to military conscription will drop to 44 percent in the Russian Republic and rise to 33 percent in the southern, mostly Muslim republics. Increases in death rates among infants since 1971 and among Slavic males aged 20-44 in particular contributed to a 50 percent rise in the national death rate from 1964 to 1980. Life expectancy may have dropped from 67 to 62 years for Soviet males between 1964 and 1980 and from 76 to 74 years for females. Most capital investment now goes to defense, agriculture and energy, leaving little room for increased investment in health-care delivery, which could reduce death rates, or in housing, which might help raise fertility.

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THE SOVIET UNION

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The Soviet Union: Population Trends and Dilemmas

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Regarded as the leading U.S. authority on the population of the Soviet Union, Murray Feshbach began his study of the USSR with Russian-language training in the U.S. Army, followed by 14 years, from 1957 to 1981, as a Soviet specialist in the Foreign Demographic Analysis Division of the U.S. Bureau of the Census. He is currently Senior Research Scholar, Center for Population Research, and Professorial Lecturer, Department of Demography, at Georgetown University in Washington, D.C. He holds the Ph.D. in economics from The American University. He is author or co-author of more than 50 articles, papers, and book chapters on various aspects of the Soviet population, especially labor force and mortality trends, and Soviet demographic statistics. A frequent visitor to the USSR, he also serves as consultant on Soviet economic and demographic issues to the U.S. government and various business corporations.

Estimated at 270 million as of mid-1982, the population of the Soviet Union ranks third in the world, after China (1 billion), India (714 million), and ahead of the U.S. in fourth place with 232 million. Its present rate of natural increase (births minus deaths) is about 0.8 percent a year, higher than current rates of natural increase in the U.S. (0.7 percent) and in developed countries as a whole (0.6 percent). Unlike the U.S., net immigration plays no part in Soviet population growth, although emigration was noticeable in some years during the 1970s, while remaining insignificant relative to total population size.

Despite the country's relatively favorable rate of natural increase and in contrast to concern over burgeoning population in the rest of the world, Soviet leaders have launched a pronatalist policy which they hope will lead to an increase in fertility, at least among the dominant Slavic groups of the multinational country. Already at the 25th Congress of the Communist Party in 1976, President Leonid Brezhnev (officially, General Secretary of the Soviet Communist Party) had called for an "effective demographic policy" to deal with the country's population problems. No real action was taken, however, until the 26th Party Congress of February 1981, when Brezhnev and Premier Nikolai Tikhonov (head of the Soviet Council of Ministers) announced a new set of measures aimed at improving life for "families with children, newlyweds, the growing generation, and above all, women." Premier Tikhonov declared that "More than 9 billion rubles [U.S. $12.2 billion] is to be spent in the five year period ahead of us to implement measures aimed at increasing state aid to families with children, to be carried out

step by step in different regions of the country." These measures were later spelled out in the Basic Guidelines for the 11th Five Year Plan (of 1981-85) and in legislation enacted in March and September of 1981.[1]

The measures include lump sum grants of 50 rubles (U.S. $67.50 at the official exchange rate in July 1982) for first births and 100 rubles (U.S. $135) for second and third births. Previously, progressive birth grants began only with 20 rubles ($27) on the third birth and 65 rubles ($88) for fourth births. Except for single mothers, no plans were announced for increasing the present small monthly child allowance (4 rubles a month for third and "higher-order" children until age five; 12 rubles a month for all children until age eight in very low-income families). For unmarried mothers, already receiving an extra 5 to 10 rubles a month per child up to age 12, "it is planned in 1981 to increase the monthly child allowance," Tikhonov declared. Maternity leave for working mothers, hitherto granted without pay for a year following a child's birth, is now to be partially paid for a year after birth. This was to begin in November 1981 at 50 rubles a month for women in Siberia and the Far East of the low-fertility Russian Republic (where it amounts to 30 percent of the average monthly wage) and extended by 1983 at 35 rubles a month to women in other regions (where the subsidy ranges from 21 percent to 25 percent of the average wage). "Subsequently, [partially paid] leave will be extended till the time the child reaches the age of 1½," Tikhonov announced.

Other fertility-stimulating measures have been authorized or proposed without providing details: More opportunities for mothers to work parttime (parttime jobs accounted for only 2.5 percent of employment in 1974[2]); improved working conditions for women (in January 1981, women were barred from 460 occupations involving heavy or hazardous work—"the best-paying jobs for women with few skills," according to U.S. demographers Cynthia Weber and Ann Goodman[3]); more and better day-care facilities for preschool children; improved housing conditions; "increasing the leisure time of women-mothers" (Three extra annual leave days for mothers of two or more children under 12); and "effective measures to ease housework."

Preceded by years of scholarly debate, the latest measures were long delayed, probably because Soviet leaders were reluctant to endorse "a differentiated policy that might be interpreted as an attempt to control the size of minority groups"[4]—specifically, high-fertility Muslims living mostly in the southern republics of Azerbaydzhan, Kazakhstan, and the four Central Asian republics of Kirgiziya, Tadzhikistan, Turkmenistan, and Uzbekistan. The limited nature of the proposals and measures suggests that Soviet officials realize they can "ill afford to encourage the withdrawal of women from the labor force in the low-fertility but highly industrialized regions at a time when the country faces critical manpower shortages," as Weber and Goodman put it.[5] However, the proposals testify to the leadership's growing concern over some of the demographic problems besetting the country.

Demographic problems

National population growth has dropped by more than half in the last two decades, from 1.8 percent a year in the 1950s to 0.8 percent in 1980-81, due mostly to declining fertility. The national fertility decline masks sharp differences among the 15 republics and even more so among the some 125 nationalities. In 1980, the Russian Republic, by far the largest republic, had an estimated fertility rate of 1.9 births per woman (as did the U.S.) and the rate was just 2.0 in the other two Slavic republics, the Ukraine and Belorussia. In the Central Asian republics the rates ranged up to 5.8. Although the Russians will doubtless continue to be the dominant nationality,

low fertility and a relatively higher death rate will reduce their share of the total population to less than half by the end of the century. Fertility has begun to decline in the Muslim republics, but by 2000 they are still expected to have rates of natural increase as high as 2.1 percent a year—14 times the projected rate in the Russian Republic.

The implications of this disparity for future labor supplies and military manpower must be of major concern for the Russians in the Kremlin. With the national fertility decline of the past decade and a half, annual additions to the population of working age will drop sharply during the 1980s and virtually all net increases will come from the high-fertility, non-Slavic regions. By 2000, one-third of all 18-year-old males available for the required two years of military service will come from the southern republics, compared to 18 percent in 1970, while the share of 18-year-old males in the Russian Republic drops from 56 percent to 44 percent.

Policies to lure people to cities for work in factories have been almost too successful. Since the Soviet Union's formation after the 1917 Revolution, the population has shifted from 82 percent living in rural places to almost two-thirds (63 percent) urban in 1980, but the proportions vary sharply among the 15 republics. In some republics, "excessive" migration of young people from rural areas has reduced rural birth rates below those of urban areas and created manpower shortages for priority agricultural projects. In others, the share of urban population has not changed in the last decade and has even dropped in one case, Tadzhikistan, due to high rural fertility and virtually no rural-urban migration.

Ignored in the new population policies is the problem of rising death rates. In its first four and a half decades, the Soviet Union recorded a remarkable drop in the death rate from 29.1 deaths per 1,000 population to a low of 6.9 in 1964. Since then, however, there has been an officially reported increase of over 50 percent to 10.3 in 1980. This rise is more than can be accounted for by the increasing proportion of elderly persons in the population and is due to sharp increases in death rates for infants and males aged 20-44 in particular. Why this is happening is not totally clear. Doctors and hospital beds have increased, but may still be too few or too poorly distributed and utilized to cope with the magnitude of the health care task, which is compounded by shortages of medicines and medical equipment and rampant alcoholism, especially among Slavic males.

Murray Feshbach

Boys in Moscow in the Russian Republic. By 2000, low fertility is likely to reduce the ethnic Russians' share of the total Soviet population to less than half, while fertility continues high in the six predominantly Muslim republics.

Soviet demographic problems are interwoven with the country's serious economic problems. Grain import needs in 1982 are at an all-time high after three drastic harvest shortfalls in a row, with a fourth one predicted for this year. However, funds to pay for imported grain are also in short supply with falling prices for the country's chief exports,

oil and gold, and massive spending on defense and activities in Afghanistan and Poland. Shortages and prices of consumer goods continue to mount, reducing workers' incentives to produce more and thus defeating government efforts to increase labor productivity to compensate for manpower shortages. While annual growth in industrial labor productivity is still higher than in the U.S., the long-term trend is clearly downward in the Soviet Union, promising the regime more difficulties in maintaining past economic growth. And over all, lurks the uncertainty of what may be in store with the impending change in leadership.

Data shortcomings

Any report on the Soviet Union is hampered by a scarcity of reliable data. Since Lenin decreed at the end of the 1920s that statistics should be "practical and not scholastic," both the quantity and explanation of published data have been erratic. Almost no data were published from 1936 until 1956 under Khrushchev, three years after Stalin's death. Annual statistical handbooks with varying amounts of population data have since appeared regularly, an important handbook on population was published in 1975, and the Central Statistical Administration has occasionally released population data in its *Vestnik statistiki* (Statistical Herald). Published results from the 1959 and 1970 censuses amounted to only about 3,000 pages for each, far short of the effort for the 1926 census, though much more than was published from the 1939 census. After nearly four years, only some general results from the January 1979 census have appeared in *Vestnik statistiki* and the general media and it seems increasingly likely that no more than two official volumes will be published if any. Most worrisome is the prospect that no crucial data on population age structure will be released. This would not be unprecedented in Soviet statistical practice where figures that become inconvenient may be dropped or redefined—a practice that can occur in other countries, but raised to a fine art in the Soviet Union.

Statistical series from other sources besides the census have also disappeared in recent years. For example, no life expectancy data have been published since 1971-72; no infant mortality data since 1974; no data on death rates by age and sex since 1973-74 and by age since 1975-76; and no information on doctors by specialty since 1975. Also absent are data on female births since 1973 and on births by nationality, except for estimates from a secondary source for the period between the 1959 and 1970 censuses.

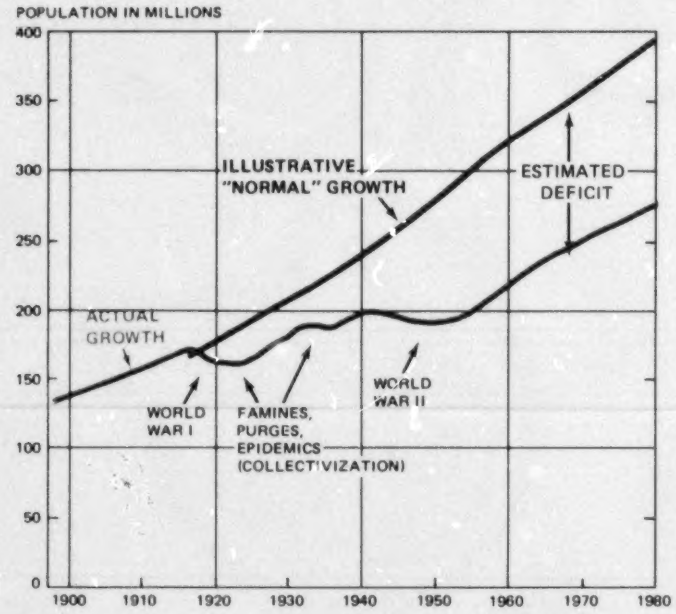
All this puts a limit on how much use can be made of standard demographic measures and methods. However, Soviet sources still provide much information and outside experts have filled some of the gaps, most notably the Foreign Demographic Analysis Division of the U.S. Bureau of the Census, whose estimates and projections are gratefully used to help round out the picture of Soviet population presented in this *Bulletin*.

The Background

Early population growth

From the launching of the USSR in November 1917 to the early post-World War II years, Soviet population history was one of almost continual catastrophe.[6] The country's participation in World War I ended with the signing of the Brest-Litovsk Treaty in March 1918, but the war's military toll continued to mount as many wounded soldiers later died. Simultaneously, other events caused further heavy population losses. Some 2 million persons were lost in the civil war of 1919-21 or in combat with foreign armed forces sent to try to oust the new government, and with the flight of dissenting "White Russians." Over 3 million persons died between 1917 and 1923 in epidemics of cholera, typhus,

Figure 1. Population Growth in the USSR, 1897-1980, and Illustrative "Normal" Growth 1917-1973



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typhoid, and dysentery.

The first of three famines in Soviet history, in 1922-24, is estimated to have taken a toll of 5½ million deaths. Another some 5 million persons died during the liquidation of *kulaks* (private farmers) and forced land collectivization in the early 1930s. The next famine of 1932-34 claimed another 5 million or more lives. The purges and concentration camps of the 1930s may have led to the deaths of 5 to 10 million people. During World War II, direct war-related deaths alone totaled over 20 million, many more died from causes less directly related to combat, and annual births dropped precipitously. In 1946-47, a third famine in the grain-growing Kuban region of the Russian Republic led to an unknown number of additional deaths.

Figure 1 illustrates the effect of these demographic losses from excess mortality and the resulting loss of potential births during the first 30 years of Soviet history. In August 1973, the population reached the benchmark figure of 250 million. It is estimated that with "normal" growth rates of 1.5 or 1.75 percent a year from 1917 to 1973, the figure would have been 125 million to 200 million higher by that date. Later sections of this *Bulletin* thus focus on the period since 1950 as one of more reasonable demographic possibilities.

Geography and resources

Stretching across 11 time zones, almost literally half way round the world, the Soviet land area is the largest of any country in the world. The current territory of 22.4 million square kilometers, or 8.6 million square miles (about 2½

times the size of the U.S.), is nearly as large as the Russian Empire inherited by the Soviets in 1917, but the borders have shifted considerably during the Soviet period. Estonia, Latvia, Lithuania, Finland, and Russian provinces of Poland were lost after World War I but regained along with some Romanian provinces during World War II, except for Finland, although Finland was obliged to yield substantial territory to the USSR. The country has about 37,000 miles of border, 4,000 of them with China.

Most of the land is a vast plain, broken only by the low Urals between Europe and Asia, high mountains near China, and rivers that divide rather than link the nation by running north or south rather than east or west. Two-thirds of the area consists of arctic or subarctic treeless tundras, swampy coniferous forests called *taiga*, and deserts, in the south. Only about 10 percent of the country is considered arable. Crops are vulnerable to the long winters of the northerly latitudes (even Tashkent, capital of Uzbekistan in the south, lies farther north than Denver, Colorado) and to unpredictable rainfall, due to the country's continental size. Three-quarters of the population and most agricultural land are located south and west of Leningrad (in the northwest corner of the country) and Novosibirsk (in the south-central part of the Russian Republic. See map, page 2.)

Although relatively short on agricultural land, the Soviet Union is blessed with enormous quantities of natural resources —coal, iron ore, natural gas, gold, copper and many other nonferrous metals, and all-important oil. (It is the world's largest oil producer and has reserves second only to those of Saudi Arabia.) Most untapped resources, however, are in Siberia and the Far East where distance and climate make exploitation difficult. Resources in the western, European part of the country, though far more accessible, are now of lower quality or harder to refine than they once were.

Republics and nationalities

The 15 republics of the Soviet Union are usually grouped by region. The three Slavic republics are the Russian Republic, or RSFSR, stretching nearly the whole width of the country, and the Ukraine and Belorussia to the west and north. The RSFSR contains 52 percent of the country's population and produces 60 percent of the gross industrial product. The Baltic republics, in the northwest corner, are Estonia, Latvia, and Lithuania. Moldavia in the far west, encompasses much of Bessarabia, once part of Romania, and is largely agricultural. The Transcaucasian republics, in the southwest, comprise the ancient countries of Armenia and Georgia, as well as Azerbaydzhan, which borders on Iran and has a largely Muslim population. Muslims also predominate in the five remaining republics—Kazakhstan and the four of Central Asia (Kirgiziya, Tadzhikistan, Turkmenistan, and Uzbekistan)—except in the north of Kazakhstan where there are many Russians who came to work in Khrushchev's Virgin Lands agricultural program in the late 1950s and in the military and space facilities located in that region. The four Central Asian republics are split between high proportions of Russians in the large cities and native peoples in rural areas, who move only reluctantly to the cities of their own republics, let alone to other parts of the Soviet Union. This poses a problem for Soviet authorities who are counting on the burgeoning Central Asian populations to offset growing labor shortages in the low-fertility, industrialized northwest of the country and in Siberia.

The 15 republics bear the names of the country's 15 basic nationalities. The peoples of these 15 nationalities, many of whom live outside "their" republics, make up 90 percent of the total population. Altogether, there are some 125 nationalities. Russian is the language of national affairs, business, and the army, and a necessity for anyone who wants to get ahead. Soviet leaders also see

Novosti from Sovfoto

A family in Dushanbe, capital of the Central Asian republic of Tadzhikistan.

wider use of Russian as a way to "Russify" other groups and thus, for example, to spread the Russian small-family ideal among non-Slavic peoples. However, some 127 different languages are still spoken in the country, 18 of them by at least a million people each. Radio programs are broadcast in 67 languages, school textbooks are printed in 52 and journals in 42, theaters give performances in 47, and works of fiction are reportedly printed in 76 different languages.[7]

Agriculture and the economy

Brezhnev himself acknowledged in November 1981 that food is "economically and politically" the central problem now facing the Soviet Union.[8] Bad weather precipitated the disastrous harvest shortfalls of 1979, 1980 and 1981, and what threatens to be another poor harvest in 1982, but the underlying cause is the inefficiency of the collectivized agricultural system. With eight times more farmworkers than the U.S. (23 percent of the work force) and nearly 27 percent of investment capital devoted to it, Soviet agriculture still produces only 80 percent as much as the U.S. Food shortages are growing and the country is expected to import a record 43 million metric tons of grain in 1982. Twenty years ago the Soviet Union was a net exporter of grain.

One problem is the shortage of trained farmers as more and more young people migrate to cities, leaving agriculture in the hands of the elderly and less skilled. Labor is especially short in the high-priority, Non-Black-Earth Zone. Stretched across the northern RSFSR from the borders of Belorussia and the Baltic republics to western Siberia, this is the site of a massive effort begun in 1974 to meet the country's grain needs by reclaiming 29 million acres of swamp and parched soil and raising harvest outputs. So far the program has shown little return to justify its huge drain on increasingly scarce capital and labor.

Food shortages so concern the Soviet leadership that unprecedented measures were announced in January 1981 to increase production on private farm plots.[9] These small plots of no more than 1¼ acres, which farmers are allowed to till part time for their own profit, cover only 1.3 percent of the nation's farm land, but produce 15 to 20 percent of all food. According to official figures, private plots accounted for only 1 percent of the grain harvest in 1980, but produced two-thirds of all potatoes and eggs and one-third of vegetables and meat.[10] Since much of this produce is sold "on the left" (in the black market), the true proportions are probably high r.

The inefficiency of the quota-dominated, centralized planning system is now also hampering industrial growth. In the 1960s, with large annual increases in labor and capital investment, industrial output grew by 8 percent a year. In 1981, the growth was only 3.4 percent.[11] Increased spending for defense, food imports, and commitments throughout the Soviet bloc from Poland and Afghanistan to Cuba and Vietnam has cut down on funds available for investment in new machinery and factories. The target for annual increases in capital investment has fallen from as high as 9 percent in the five-year plans of the 1960s to about 2.5 percent in the

Table 1. Population Growth, 1950-1981, and Doubling Times at 1980-81 Growth Rate: USSR and Republics

(Population in thousands; estimate as of January 1, except 1980, as of January 15)

USSR and republics	1950 population	1960 population	1950-60 annual percent increase	1970 population	1960-70 annual percent increase	1980 population
USSR	178,547	212,372	1.8	241,720	1.3	264,486
Slavic republics						
RSFSR	101,438	119,046	1.6	130,079	0.9	138,365
Ukraine	36,588	42,469	1.5	47,126	1.1	49,953
Belorussia	7,709	8,147	1.3	9,002	1.0	9,611
Moldavia	2,290	2,968	2.6	3,569	1.9	3,968
Baltic republics						
Estonia	1,097	1,209	1.0	1,356	1.2	1,474
Latvia	1,944	2,113	0.8	2,364	1.1	2,529
Lithuania	2,573	2,756	0.7	3,218	1.3	3,420
Transcaucasus						
Armenia	1,347	1,829	3.1	2,492	3.1	3,074
Azerbaydzhan	2,859	3,816	2.9	5,117	3.0	6,112
Georgia	3,494	4,129	2.7	4,686	1.3	5,041
Kazakhstan	6,522	9,755	4.0	13,009	2.9	14,858
Central Asia						
Kirgiziya	1,716	2,131	2.2	2,933	3.3	3,588
Tadzhikistan	1,509	2,015	2.9	3,900	3.7	3,901
Turkmenistan	1,197	1,564	2.7	2,159	3.3	2,827
Uzbekistan	6,264	8,395	3.0	11,799	3.5	15,765

Sources: USSR Central Statistical Administration (hereafter TsSU), *Naseleniye SSSR 1973* (Population of the USSR, 1973) (Moscow: Statistika, 1975) and *Narodnoye khozyayistvo SSSR* (The USSR National Economy, hereafter *Nar. khoz.*, various years).

current 1981-85 five-year plan. Low fertility has cut annual gains in new workers. With still fewer new workers available in the decade ahead, economic growth will depend more than ever on inducing managers and workers to be more efficient and making better use of existing machinery and factories. On this score, however, the Soviet system has a poor track record.

There will also be increasing competition for scarce capital and labor. Currently, most capital investment goes to defense, agriculture and energy, leaving little room for increased attention to all other social and economic needs. With the rise in death rates, a chief claimant for expanded growth should be the health-care sector, but this seems destined to remain a low priority.[12]

Population Growth 1950-1980

Table 1 shows the marked slowdown in overall Soviet population growth since 1950 and the continuing gap in the growth rates for different republics and regions. Since only a miniscule portion of Soviet citizens emigrates (and even fewer people enter the country intending to settle there), the national population growth rate is shaped almost solely by trends in fertility and mortality. However, migration across borders does make a

1970-80 annual percent increase	1950-80 percent increase (total)	1981 population	1980-81 percent increase	Doubling time at 1980-81 growth rate (years)
0.9	46.1	266,599	0.8	87
0.6	36.4	139,165	0.6	121
0.6	36.5	50,135	0.4	194
0.7	24.7	9,675	0.7	105
1.1	73.3	3,995	0.7	103
0.8	34.4	1,485	0.8	93
0.7	30.1	2,539	0.4	175
0.9	32.9	3,445	0.7	96
2.1	128.2	3,119	1.5	48
1.8	113.8	6,202	1.5	48
0.7	44.3	5,071	0.6	117
1.3	125.4	15,053	1.3	53
2.0	109.1	3,653	1.8	39
3.0	158.5	4,007	2.7	26
2.7	136.2	2,897	2.5	28
2.9	154.5	16,158	2.5	28

difference in the overall growth rate of some republics.

National trend

In the 1950s, the total population grew by 1.8 percent a year, a goodly rate of recovery from the terrible losses of World War II. The 1960s witnessed a sharp dropoff from 1.6 percent a year in the first half of the decade to 1.0 percent in the latter half. Since then, growth has been under 1 percent a year, reaching 0.8 percent in 1980—less than half the average annual rate of the 1950s. The cause of this decline has now shifted from the fertility decline to the mortality side of the equation. As we shall see, the national birth rate actually increased slightly during the 1970s, while the death rate bottomed out in 1964 and has since gone up by 50 percent.

Regional differences

Between the 1950s and 1970s, annual growth rates declined in all but two republics (Lithuania and Turkmenistan), but the gaps between the rates, though narrowed, still remain.

In the 1950s, the lowest average annual growth rate among the 15 republics was recorded in Lithuania (0.7 percent) and the highest in Kazakhstan (4.0 percent). Kazakhstan's high rate was probably due as much to the influx of hundreds of thousands of workers for the Virgin Lands project and military and space operations as to high fertility among the native Muslims. By the 1970s, Kazakhstan's annual growth rate had dropped to 1.3 percent (Table 1). In the 1970s, the RSFSR and the Ukraine had the lowest average rates (both 0.6 percent), and Tadzhikistan's was the highest (3.0 percent). Tadzhikistan's fertility rate has risen since the mid-1960s and is the highest of all the republics at 5.8 births per woman.

Regional differences in growth trends also bring out the disparities. Between the 1950s and the 1970s, the average annual growth rate for the three Slavic republics as a group dropped 60 percent (from 1.5 percent to 0.6 percent, unweighted averages) while the rate for the four Central Asian republics was the same in both decades (2.7 percent), after a rise during the 1960s to 3.5 percent. In the 1950s, population in the Central Asian republics as a group was growing close to twice as fast as that of the Slavic region; by the 1970s it was growing 4½ times as fast.

Population growth in the RSFSR, the dominant Slav republic, is likely to stabilize or even rise slightly in the near future as former residents return or new ones arrive to work in the Non-Black-Earth Zone and other high-priority

projects located in that republic, such as the 2000-mile-long Baikal-Amur Mainline railway being built across Siberia. Growth in Central Asia may decline in the next decade as some Russians return to the RSFSR and a few natives respond to official efforts to recruit Central Asian workers for labor-short industries in the north. In the long run, Central Asian fertility should decline as increasing education, urbanization, and female labor force participation have some impact. But this decline will not lower the region's rate of growth to the level recorded or projected for the RSFSR.

Absolute numbers tell the same story as growth rates. The country's total population grew from 179 million to 264 million, or 48 percent, in the three decades from 1950 to 1980 (Table 1). Numbers in the Slavic republics grew by one-quarter to a third, while the high-fertility, mostly Muslim populations of the southern republics (Transcaucasus, Kazakhstan, and Central Asia), with the exception of Georgia, increased by 100 to 150 percent, or four to five times as much.

Still another enlightening measure of the growth differential is "doubling time," or the number of years it would take the population to double in size if the current growth rate were to continue. At their 1980-81 growth rates of 0.4 percent to 0.7 percent, the populations of the three Slavic republics would take an average of 140 years, or almost one and a half centuries, to double (Table 1, last column). For the four Central Asian republics, the average based on their 1980-81 growth rates is 30 years.

Although the four Central Asian republics currently make up only 10 percent of the national population compared to 75 percent in the three Slavic republics, Soviet planners are clearly concerned about the implications of the growth differential for the future. This was evident in the regionally differentiated timetable for applying the new, partially paid maternity leave for working mothers. The measure was to be implemented first in parts of the RFSFR (Siberia, the Far East and certain northern provinces) and last of all in Central Asia.[13] Women of high-fertility Central Asian groups are being encouraged to increase their labor force participation, in another effort to dampen the region's high birth rates. Although 80 percent of Central Asian women already work in the socialized economy, the rate is below the 90 percent among women in the Russian Republic. Also, the leadership has been increasing investment in light industry in Central Asia, partially with an eye to stimulating urbanization as yet another approach to reducing fertility in this region.

Age and Sex Composition

Trends in fertility, and in migration in some areas, have naturally affected the age distribution of the population in different ways, while disturbing trends in male mortality have left their mark on the balance between the sexes.

An aging population

As in all industrialized countries, declining fertility has increased the share of the elderly in the Soviet population and thus led to a general "aging" of the population. In the Soviet Union, the "over-age" or "pension" years begin at age 60 for men and 55 for women. Workers' rights to retire on pension at these early ages will probably be maintained, but with growing shortages of people in the "able-bodied" or working ages, pensioners are being encouraged to remain at, or return to, work. Age 16 now defines the official lower end of the working-age population but this will probably soon be raised to age 18 since most children now complete the full basic ten-year school program, which begins at age seven, and the goal is to provide compulsory ten-year schooling to all children.

Nationwide, the proportion of men and women in the "pension" ages increased from 10.4 percent in 1950 to 15.4 percent in 1980 and it is projected to grow to 19.1 percent in 2000.[14] This is not markedly different from the U.S., where the proportion of the total population in these age groups (men aged 60 and over and women aged 55 and over) was 18.3 percent in 1980 and is projected to be 18.7 percent in 2000.[15] However, the Soviet national figures mask sharp regional differences. In the low-fertility Russian Republic, the proportion of retired persons is expected to reach 22 percent by the year 2000—a worrisome prospect for national leaders concerned about labor force supplies in this republic which still contains over half the national population and produces 60 percent of the gross national product. In the four Central Asian republics and in Kazakhstan and Azerbaydzhan, continuing high fertility is expected to keep the "elderly" share of the population at 10 percent in the year 2000, as it is currently.

The aging of the population is also reflected in the projected rise in the average age of the population. For the country as a whole, the average is expected to increase from 28.7 years in 1975 to 33.1 years by 2000. Again, the regional differences are wide. For example, the comparable figures for the RSFSR are 31.1 and 37.1 for the years 1975 and 2000; and for Uzbekistan, 17.8 and 20.7.[16]

In many rural areas, the aging process has been hastened by the outmigration of young adults. Labeling the results a "deformation" of the rural age structure, two leading Soviet demographers, D. Valentey and A. Kvasha, have cited this as particularly disturbing for the Non-Black-Earth Zone program on which Moscow places such hopes for increasing the country's food supply.[17] Past policies to lure young people from the countryside to supply the manpower needs of urban industry have been all too successful. Now, older, less skilled persons have been left to cope with the modern machinery and techniques introduced into the area in an effort to raise harvest yields. In a May 1982 speech on the food problem, Brezhnev also included the exodus of young adults among the many problems plaguing Soviet agriculture.[18]

With no age data yet published from the 1979 census, this trend cannot be documented for the past decade. However, Soviet leaders' public references to it indicate that the trend revealed by the 1959 and 1970 censuses still persists. Between those earlier dates, the number of persons aged 20-24 in the rural population of the RSFSR dropped almost 50 percent; those aged 25-29, by more than 50 percent; and those aged 30-34 by roughly 20 percent. By contrast, for the same period, the decline in persons aged 20-24 and 25-29 in the rural population of Uzbekistan was only about 20 percent, and the number of those aged 30-34 actually increased by 14 percent.[19]

The decline in numbers of young adults in rural areas would also obviously tend to depress the crude birth rate in those areas (the rate of births per 1,000 population). In rural areas of Belorussia, for example, the number of persons in their twenties dropped more than 50 percent between 1959 and 1970, which probably explains why the crude birth rate of rural areas has for many years been lower than the urban birth rate in that republic.[20]

Population aged 0 to 9

The impact of differential fertility on population age structure is most noticeable when we look at trends in the share of children aged 0 to 9 in different republics. Such data are readily available from published material from the 1959 and 1970 censuses. For the comparable figures as of the 1979 census for which there are so far no straightforward published age data, an indirect method was used, involving estimates derived from published data on educational at-

Table 2. Population Aged 0-9 Years, USSR and Republics: 1950, 1970, 1979

USSR and republics	Percent of total population			Number		
	1959	1970	1979	1959 (thousands)	1979 (thousands)	Change, 1959-79 (percent)
USSR	22.2	18.6	16.8	46,362	44,056	- 5.0
Slavic republics						
RSFSR	21.9	16.4	14.8	25,768	20,340	-21.1
Ukraine	18.9	16.0	14.2	7,890	7,055	-10.6
Belorussia	22.0	18.4	14.8	1,768	1,406	-20.5
Moldavia	25.8	20.6	17.7	744	700	- 5.9
Baltic republics						
Estonia	15.8	14.6	14.1	189	207	9.5
Latvia	15.1	14.8	13.6	316	341	7.9
Lithuania	18.7	18.0	15.9	507	539	6.3
Transcaucasus						
Armenia	29.0	25.8	20.7	512	630	23.1
Azerbaydzhan	29.4	30.4	23.2	1,086	1,396	28.6
Georgia	21.5	20.2	17.4	869	867	- 2.3
Kazakhstan	27.8	25.3	22.9	2,585	3,367	30.3
Central Asia						
Kirgiziya	29.5	28.8	25.3	609	891	46.3
Tadzhikistan	30.8	33.5	30.3	609	1,153	89.3
Turkmenistan	30.4	31.9	29.0	460	803	74.6
Uzbekistan	30.2	31.8	29.2	2,451	4,492	83.3

Sources: 1959 and 1970: TsSU, *Itogi Vsesoyuznoy perepisi naseleniya 1970 goda* (Results of the 1970 All-Union Census), Vol. 2 (Moscow: Statistika, 1971) pp. 12-73; 1979: Murray Feshbach, "Between the Lines of the 1979 Soviet Census," *Problems of Communism*, Vol. 31, No. 1 (January-February 1982) Table 2, p. 32.

tainment and employment of the population by republic.[21] The figures for the three years are shown in Table 2.

As might be expected, children aged 0 to 9 as a proportion of the total population dropped sharply in the three Slavic republics, from roughly 21 percent in 1959 to 15 percent in 1979. In the four Central Asian republics where fertility has remained high, the proportions of young children remained constant at about 30 percent in three republics. Only Kirgiziya had a drop of more than one percentage point—from 29.5 to 25.3 percent. This could be because Kirgiziya has a higher proportion of low-fertility Russians than the other three Central Asian republics, especially in its capital city, Frunze.

Absolute numbers reveal still sharper differences. In the RSFSR and Belorussia, the number of children aged 0 to 9 dropped by 21 percent in these two decades, and 11 percent in the Ukraine (Table 2). The decline in numbers of young people in the RSFSR must be of special concern to national leaders, most of whom are Russian. (Eleven of the 14 members of the Politburo, the country's supreme policymakers, are ethnic Russians.) With fewer potential leaders coming along in this most populous and most Russian of republics, the preeminence of Russians in national affairs might wane. (It should be noted that ethnic Russians comprise about 85 percent of the population of the RSFSR, or Russian Republic, 52 percent of the national total population, and many live outside the RSFSR.)

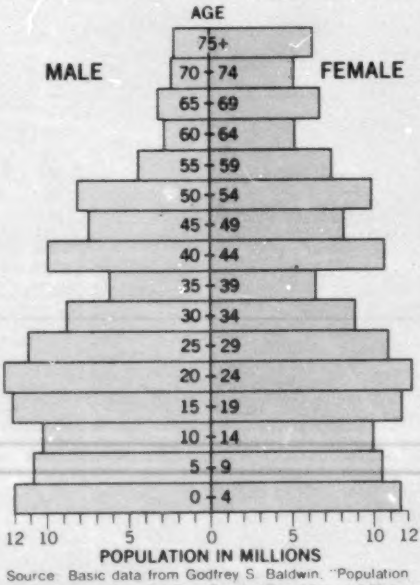
In contrast to the situation in the Slavic republics, the number of children aged 0 to 9 increased rapidly between 1959 and 1979 in the six predominantly Muslim republics—by some 30 percent in Azerbaydzhan and Kazakhstan, and by 46 percent to nearly 90 percent in the four Central Asian republics. They currently add up to far fewer children of this age than in the Slavic republics. However, it is projected that by 2000, children aged 0 to 9 in the six Muslim republics will total 85 percent of the total in that age group in the RSFSR.[22] Since these children will in turn become members of the armed forces, workers, and parents, they will thus determine much of the future character of Soviet society.

Shortage of males

Of the two sexes, men have been most affected by abnormal events and trends in Soviet population history. The country's huge military losses in World Wars I and II left a severe imbalance of the sexes in the population which is still evident in the deficit of males aged 55 and over in the country's population age-sex pyramid for 1980 shown in Figure 2. The effect of World War II is also reflected in the large deficit of births in 1940 to 1945, represented by the "pinching" of the pyramid in the 35-39 age group (of both men and women). Now it appears that abnormally high death rates in the past two decades among males in the prime working ages of 20-44 have contributed to a continued shortage of males in the population. Among the partial results released from the 1979 census was the fact that men still constituted only 46.6 percent of the total population. This is a low share; normal percentages for developed countries are 48 to 49 percent. (The figure for the U.S. in 1979 was 48.7 percent.) Males in the Slavic and Baltic republics have been much more affected than those in the southern Transcaucasian and Central Asian republics.

The effects of World War II can be seen in the data from the 1959 and 1970 censuses on the percentages of males by age group shown in Table 3 (page 16). In the total population in 1959, males constituted only 45.3 percent of the 30-34 age group (the group most likely to have fought in the 1940-45 war), compared to 49.0 percent in the 25-29 year-old group. In the 1970 data, there is a similar dropoff between the male share (49.1 percent) among 35-39 year-olds and the male proportion (46.1 percent) among 40-44 year-olds. These differences appear in all the Slavic and Baltic republics but not in the Transcaucasian and Central Asian republics. This probably reflects the much heavier World War II military losses suffered in the northern areas and also the large postwar migration of Russian males to other republics.

Figure 2. USSR Population Age-Sex Pyramid: July 1, 1980



Source: Basic data from Godfrey S. Baldwin, "Population Projections by Age and Sex: For the Republics and Major Economic Regions of the USSR, 1970 to 2000," *International Population Reports*, Series P-91, No. 26 (Washington, D.C.: U.S. Bureau of the Census, Foreign Demographic Analysis Division, 1979).

Table 3. Percentage of Males in Total Population and Selected Age Groups, USSR and Republics: 1959, 1970, 1979

USSR and republics	1959			1970			1979
	Total	25-29	30-34	Total	35-39	40-44	Total
USSR	45.0	49.0	45.3	46.1	49.1	46.1	46.6
Slavic republics							
RSFSR	44.6	49.6	45.5	45.6	49.1	46.0	46.0
Ukraine	44.4	48.1	43.9	45.2	48.4	45.0	45.8
Belorussia	44.5	46.5	42.4	46.0	47.6	44.6	46.5
Moldavia	46.2	46.1	44.8	46.6	46.8	45.2	47.1
Baltic republics							
Estonia	43.9	48.0	42.9	45.7	48.6	45.7	46.2
Latvia	43.9	48.1	41.2	45.7	48.7	44.4	46.1
Lithuania	45.9	46.9	43.1	46.9	47.5	44.6	47.2
Transcaucasus							
Armenia	47.8	48.7	48.6	48.8	50.1	49.7	48.7
Azerbaydzhan	47.5	49.8	49.1	48.5	50.7	50.4	48.8
Georgia	46.1	47.6	47.3	47.0	49.1	48.7	47.1
Kazakhstan	47.5	51.2	46.7	48.1	51.1	47.0	48.3
Central Asia							
Kirgiziya	47.2	48.7	47.7	47.8	49.6	47.8	48.0
Tadzhikistan	48.7	47.7	50.0	49.2	49.4	50.7	49.4
Turkmenistan	48.2	49.1	47.8	49.2	51.0	49.4	49.0
Uzbekistan	48.0	48.2	49.2	48.7	50.1	49.9	49.1

Sources: TsSU, *Itogi 1970*, and Feshbach, "Between the Lines of the 1979 Soviet Census," Table 1.

Overall, in 1959, males made up 45.0 percent of the population. By 1970, their share was up to 46.1 percent, a gain of 0.1 percentage point per year. The recovery of males in the population might have been expected to continue apace in the 1970-79 intercensal period with the birth of new cohorts (distributed normally according to sex) and the death of older cohorts (with their war-induced sexual imbalance). Instead, the percentage of males in 1979, 46.6 percent, represents a slowing in the rate of recovery to only 55 percent of the annual rate for 1959-70. Again there is a regional difference, with Slavic and Baltic men showing markedly low percentages in 1979, while the male proportions are in the normal 48-49 percent range in the southern republics.

This continuing shortage of males is probably linked to increased male mortality, especially at ages 20-44 (see page 31). The fact that the shortage appears only in the Slavic and Baltic republics could be because alcoholism —a prime contributing factor in "premature" male deaths—is common in these northern regions but not in the Muslim republics. Also, the recurring influenza epidemics of the 1970s may have taken a greater toll among the larger numbers of World War II veterans in the crowded cities of the north. The rise in infant mortality (see page 32) may also be having an impact on the distribution of the sexes, inasmuch as male infants tend to be weaker than female infants and hence more likely to die in infancy. Thus, the shortage of males evident in the total population may be particularly marked in the

Table 4. Crude Birth Rate, USSR and Republics: 1950-1980

(Births per 1,000 population)

USSR and republics	1950	1955	1960	1965	1970	1975	1980
USSR	26.7	25.7	24.9	18.4	17.4	18.1	18.3
Slavic republics							
RSFSR	26.9	25.4	23.2	15.7	14.6	15.7	15.9
Ukraine	22.8	20.1	20.5	15.3	15.2	15.1	14.8
Belorussia	25.5	24.9	24.4	17.9	16.2	15.7	16.0
Moldavia	38.9	30.4	29.3	20.4	19.4	20.7	21.0
Baltic republics							
Estonia	18.4	17.9	16.6	14.6	15.8	14.9	15.0
Latvia	17.0	16.4	16.7	13.8	14.5	14.0	14.0
Lithuania	23.6	21.1	22.5	18.1	17.6	15.7	15.1
Transcaucasus							
Armenia	32.1	38.0	40.1	28.6	22.1	22.4	22.7
Azerbaydzhan	31.2	37.8	42.6	36.6	29.2	25.1	25.2
Georgia	23.5	24.1	24.7	21.2	19.2	18.2	17.7
Kazakhstan	37.6	37.5	37.2	26.9	23.4	24.1	23.8
Central Asia							
Kirgiziya	32.4	33.5	36.9	31.4	30.5	30.4	29.6
Tadzhikistan	30.4	33.8	33.5	36.8	34.8	37.1	37.0
Turkemenistan	38.2	40.7	42.4	37.2	35.2	34.4	34.3
Uzbekistan	30.8	34.3	39.8	34.7	33.6	34.5	33.8

Sources: TsSU, *Naseleniye SSSR, 1973*, pp. 69-83, and *Nar. khoz. v 1980, 1981*, pp. 32-33.

youngest age groups and at ages 20-44. Only detailed age data from the 1979 census can throw light on this possible outcome of the rise in death rates—a rise which is unprecedented for a developed country. The failure of Soviet officials to release the 1979 data on age structure might well be because they are reluctant to give greater publicity to this adverse demographic trend.

Fertility

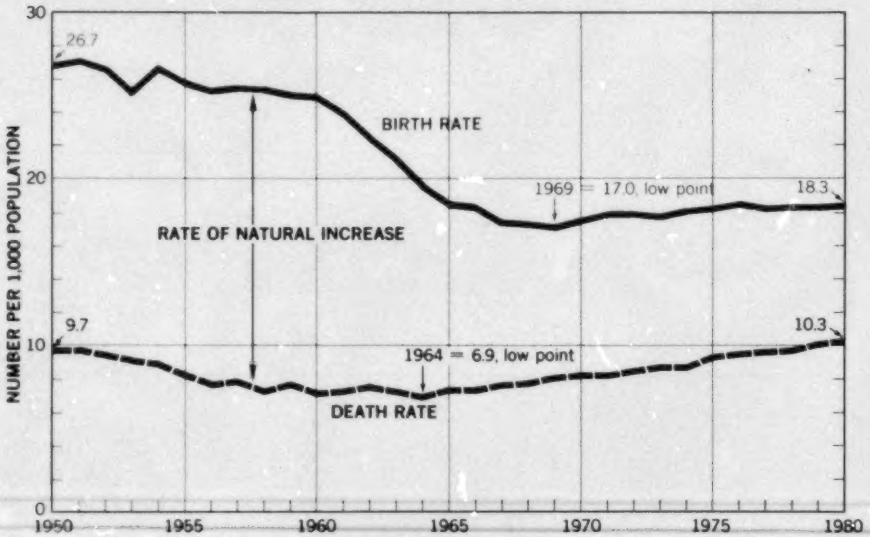
It is an axiom of the "demographic transition" that as a country develops its industrial base and urban patterns of life predominate, and as educational attainment increases (especially for women), then the crude birth rate, total fertility rate, and other measures of natality will decline. For the Soviet Union, the answer is yes, but. . . .

The overall crude birth rate of the USSR has indeed declined dramatically since 1950 and the trend in the total fertility rate has been generally parallel. However, the national authorities have initiated a pronatalist policy which they hope will lead to an increase in fertility. This policy is contrary to world hopes for continued reduction in global fertility, but as in other Eastern European countries and in such low-fertility Western European countries as France and West Germany, the Soviet top leadership is anxious to encourage the growth of families, births, and child care in their own country. Whether the policy to encourage fertility will be successful in the long run is doubtful in the low-fertility regions of the USSR, and no encouragement is needed in the high-fertility regions.

Fertility trends

From 26.7 births per 1,000 population in 1950, the crude birth rate for the

Figure 3. USSR Crude Birth and Death Rate: 1950-1980



Sources: Birth rate: B. Ts. Urlanis (ed.), *Narodonaseleniya stran mira* (Population of the Countries of the World) (Moscow: Statistika, 1978), pp. 79-80; and TsSU, *Nar. khoz.* v 1980, p. 31. Death rate: TsSU, *Naseleniye SSSR 1973*, pp. 69-82, and *Nar khoz.*, various issues.

country as a whole fell by over one-third by 1969, when the rate was 17.0 (see Table 4, page 17, and Figure 3). Since then there has been a slight rise—up to 18.3 in 1980—an increase of just under 8 percent. Why this increase? Most of it is probably due to an increase in the population share of women in the prime childbearing ages of 20-29, born during the modest postwar baby boom of the late 1940s and early 1950s. However, from now on, if projections by Western observers are correct, the number of women of these ages in the country as a whole and their share in the national population will drop sharply. Thus the national crude birth rate will perforce drop unless there is a marked upturn in the total fertility rate (a measure of the number of children each woman has).

The crude birth rates of the different republics are, of course, disparate. The trend in the RSFSR, with 52 percent of the national population (in 1980), heavily influences that of the country as a whole. Here the crude birth rate dropped by almost 50 percent from 26.9 in 1950 to a low of 14.1 in 1968, before rising slightly to 15.9 in 1980 (Table 4). The sharp drop to the end of the 1960s was probably due both to a real drop in fertility and to the outmigration of large numbers of young people to other parts of the country, especially in the late 1950s to the Virgin Lands project in Kazakhstan. (A piece of evidence for this in-migration to Kazakhstan is the high proportion—51 percent—of males in the 25-29 year-old age group in Kazakhstan in 1959. (See Table 3, page 16.)

Although Latvia had the lowest birth rate in 1980 and Tadzhikistan's was highest, the pattern in two other republics demonstrates well the range of the differentials. In the low range, Estonia's birth rate dropped by almost one-quarter from 18.4 in 1950 to 14.2 in 1967. Since then there has been an increase—less

than 6 percent, but an increase nonetheless—to 15.0 in 1980. In Uzbekistan, the rate of 30.8 recorded in 1950 was lower than any in the following three decades. In fact, Uzbekistan's birth rate rose to 39.8 in 1960 and has since declined to 33.8 in 1980, reflecting the decline in the republic's total fertility rate now under way. However, the birth rate is still high and is expected to be still about 30—twice the projected national rate—in 1990.[23] This is because the proportion of 20-29 year-old women in Uzbekistan's population is still increasing and the total fertility rate is expected to decline only modestly during the 1980s.

The total fertility rate gives an even clearer picture of trends and differentials in Soviet fertility because, unlike the crude birth rate, it is not affected by population age and sex structure. This rate indicates the average number of children women would have altogether if the age-specific fertility rates of a given year remained constant. (In the Soviet Union, age-specific fertility rates are recorded for women aged 15-49, not 15-44, as in the U.S. These rates have been officially reported for each year since 1971-72, but only sporadically before then.) For the country as a whole, the total fertility rate dropped from 2.8 births per woman in 1958-59 to 2.3 in 1979-80—a decline of 18 percent, without an increase during the 1970s as happened with the crude birth rate. (See Table 5, page 20.)

Again, the national figures mask large differences in the rates for republics. The most recently reported figures (for 1979-80) show the six Slavic and Baltic republics with total fertility rates of 1.9 or 2.0. This is below the rate of 2.1 children per woman needed to "replace" the population in the long run. In the RSFSR, the total fertility rate has been at or below replacement level since the mid-1960s, as it has been in all six of these republics except for Belorussia and Lithuania.

In the Transcaucasus, the 1979-80 rates for Armenia (2.4) and Georgia (2.2) are also quite low compared to their 1965-66 rates of 3.9 and 3.0, respectively. But Azerbaydzhan in this region has experienced one of the most remarkable fertility declines—from 5.3 children per woman in 1965-66 to 3.3 in 1979-80—a decline of over one-third. Azerbaydzhan is often held up as a model of the demographic transition that can be expected in the other five "Muslim" republics. However, this argument loses weight when we consider special circumstances in Azerbaydzhan. This republic contains Baku, which has been a heavily urbanized and industrialized area since oil was discovered there in 1870 and many non-Muslims moved in. Also, the native Azeri are Shi'ia Muslims and much better educated and less traditional than Sunni Muslims who predominate in Central Asia.[24]

Among the four Central Asian republics, the 1979-80 rate is lowest in Kirgiziya, with its high proportion of Russians, especially in urban areas, but it is still a fairly high 4.1 children per woman. Tadzhikistan has the highest rate—5.8. This is distinctly lower than the rate of 6.3 recorded only four years earlier, but it is still three times the 1.9 rate of the RSFSR. Uzbekistan, with a rate of 4.9 in 1979-80, has finally dropped below the rate of 5 or more children per woman recorded since 1958-59.

Nationality differentials

Fertility differentials by nationality, or ethnic group, are even sharper than by republic.

The size of different nationality groups plays an important role in national economic, military, and political policies in the Soviet Union. The leadership has always been aware of the problems caused by the differences in culture and beliefs among the country's some 125 nationalities but has hoped that these would be overcome by a growing sense of common national purpose as com-

Table 5. Total Fertility Rate, USSR and Republics: 1958-59 to 1979-80

(Birth rate per woman aged 15-49; rates are two-year averages)

USSR and republics	1958-59	1965-66	1967-68	1969-70	1971-72	1972-73	1973-74	1974-75
USSR	2.8	2.5	2.4	2.5	2.5	2.4	2.4	2.4
Slavic republics								
RSFSR	2.6	2.1	2.0	2.0	2.1	2.0	2.0	2.0
Ukraine	2.3	2.0	2.0	2.0	2.1	2.1	2.0	2.0
Belorussia	2.8	2.3	2.2	2.3	2.3	2.3	2.2	2.2
Moldavia	3.6	2.7	2.7	2.6	2.6	2.6	2.6	2.6
Baltic republics								
Estonia	1.9	1.9	2.0	2.1	2.2	2.1	2.1	2.1
Latvia	1.9	1.7	1.8	1.9	2.0	2.0	2.0	2.0
Lithuania	2.6	2.2	2.2	2.4	2.4	2.3	2.2	2.2
Transcaucasus								
Armenia	4.7	3.9	3.5	3.2	3.2	3.1	2.9	2.8
Azerbaydzhan	5.0	5.3	4.9	4.6	4.3	4.1	4.0	3.9
Georgia	2.6	3.0	2.5	2.6	2.6	2.6	2.6	2.5
Kazakhstan	3.3	3.5	3.3	3.3	3.4	3.3	3.3	3.3
Central Asia								
Kirgiziya	4.3	4.7	4.7	4.8	5.0	4.9	4.8	4.8
Tadzhikistan	3.9	5.5	5.9	5.9	6.2	6.1	6.2	6.3
Turkmenistan	5.1	6.0	6.0	5.9	5.9	5.9	5.9	5.8
Uzbekistan	5.0	5.6	5.7	5.7	5.8	5.7	5.7	5.7

Sources: TsSU, *Naseleniye SSSR 1973*; B. Ts. Urlanis (ed.), *Narodonaseleniye stran mira: spravochnik* (Population of the Countries of the World: A Handbook) (Moscow: Statistika, 1978); B. A. Borisov, *Perspektivy rozhdayemosti* (Fertility Perspectives) (Moscow: Statistika, 1976); and *Vestnik statistiki*, various issues.

munism matured.[25] As for Muslims, one Western observer declares that the regime has always considered it necessary to dismantle the "whole fabric of Islamic culture and society," including religious practice, education, family life, the status of women, etc., in order to modernize and industrialize.[26] Rather than waning, however, Muslim and ethnic consciousness and assertiveness have grown in recent years in Central Asia.[27] Traditional Muslims have gained more self confidence with the drive for Pan-Turkism, which has involved the Turkic Muslims in the Soviet Union, and Iran's rise as a model of a Muslim society. Local intelligentsia in Central Asia are demanding more control over the development of their own region. Soviet authorities are aware that if the Muslims of the USSR were to form a cohesive ethnic block, this could be a threat to the central authorities in the event of any future conflagration in the area.

Some Western observers have suggested that increasing assertiveness among Soviet Muslim minorities is bolstered by their increasing numbers. This seemed evident at the October 1980 Supreme Soviet session when Central Asian representatives referred to their republics' rapid population growth in calling for special attention. The Uzbek deputy K. G. Sadykov referred to Uzbekistan's "leading role" in Soviet population growth when requesting additional funding for housing, while Tadzhikistan's trade union chief A. Khaydarov also cited his republic's rapid population growth in calling for additional investment in light industry to help achieve full employment.[28] Weber and Goodman cite these as examples of reasons for a political consideration that may have lain behind the regionally

1975-76	1976-77	1977-78	1978-79	1979-80
2.4	2.4	2.3	2.3	2.3
2.0	2.0	1.9	1.9	1.9
2.0	2.0	1.9	2.0	2.0
2.1	2.1	2.1	2.2	2.0
2.5	2.5	2.4	2.4	2.4
2.1	2.1	2.1	2.0	2.0
1.9	1.9	1.9	1.9	1.9
2.2	2.2	2.1	2.1	2.0
2.8	2.7	2.6	2.5	2.4
3.8	3.8	3.6	2.8	3.3
2.5	2.4	2.4	2.3	2.2
3.3	3.2	3.1	3.0	2.9
4.8	4.8	4.6	4.4	4.1
6.3	6.2	6.0	6.0	5.8
5.7	5.7	5.5	5.3	5.1
5.7	5.5	5.2	5.1	4.9

differentiated approach of the new pronatalist policy, in addition to the economic issue of more and more of the nation's labor force necessarily coming from Central Asia. "The government may have decided that the time has come to begin to correct the imbalance in growth between Slavs and Central Asian nationalities, lest Central Asian leaders have an increasing numerical justification to 'throw their weight around.'"[29]

The increasing numbers and shifting proportions of the major nationalities in the Soviet population are shown in Table 6 (page 22). The 15 basic nationalities have added up to 90 percent of the total population in each of the three post-World War censuses: 1959, 1970 and 1979. However, the three Slavic nationalities (Russian, Ukrainian, and Belorussian) declined from 76 percent of the total population in 1959 to 72 percent of the total population in 1979. Meanwhile, the proportion of Muslims—dominated by the Azeri, Kazakh, Kirgiz, Tadzhik, Turkmen, and Uzbek nationalities—rose from 12 percent to 17 percent.

In 1979, about 10 million Slavs (mainly Russians) lived in the six basically Muslim republics (Azerbaydzhan, Kazakhstan, Kirgiziya, Tadzhikistan, Turmenistan, and Uzbekistan).[30] At the same time, about 10 million Muslims lived in the RSFSR, or Russian Republic, alone. This is close to one-quarter of the estimated 44 million Muslims in the USSR in 1979 and may mean that the RSFSR's crude birth rate is somewhat higher than it would otherwise be.

The few projections for 2000 shown in Table 6 are derived from projections by Soviet demographer M. A. Tatimov, published in 1978. Tatimov's projections of ethnic composition in 2000 imply that the three Slavic groups will increase by only 6 million, or 3 percent, between 1979 and 2000—from 189 million to 195 million. If the total population is 300 million in 2000, as Tatimov has projected (a little over the latest projection for 2000 by the U.S. Census Bureau's Foreign Demographic Analysis Division), Slavs would then comprise 65 percent of the total population, compared to 72 percent in 1979. Russians, if Tatimov is correct, would increase in number from 137 million in 1979 to 140 million in 2000, a gain of only 3 million. Their share of the total population would then be just under 47 percent, compared to 52.4 percent in 1979. Adjustments to Tatimov's projections suggest that the Muslim nationalities will number 64 million in 2000, up from 43.8 million in 1979—a gain of 20.2 million or 40 percent.

Most of the differences in ethnic numerical growth are due to differential fertility, although changing mortality patterns may now also add to the differences, as death rates rise in the Slavic republics while remaining low in the "younger" Muslim republics. Little fertility-related information by

Table 6. USSR Population by 15 Major Nationalities, 1959, 1970, 1979, and Projections for 2000

(Numbers in thousands)

Nationality	1959		1970		1979		2000[a]	
	Number	Percent of total	Number	Percent of total	Number	Percent of total	Number	Percent of total
USSR, total	208,827	100.0	241,720	100.0	262,436	100.0	300,000	100.0
Slavs	159,280	76.3	178,820	74.0	189,207	72.0	195,000	65.0
Russian	114,114	54.6	129,015	53.4	137,397	52.4	140,000	46.7
Ukrainian	37,253	17.8	40,753	16.9	42,347	16.1		
Belorussian	7,913	3.8	9,052	3.7	9,463	3.6		
Moldavian	2,214	1.1	2,698	1.1	2,968	1.1		
Balts	4,715	2.3	5,102	2.1	5,310	2.0	6,000	0.2
Estonian	989	0.5	1,007	0.4	1,020	0.4		
Latvian	1,400	0.7	1,430	0.6	1,439	0.5		
Lithuanian	2,326	1.1	2,665	1.1	2,851	1.1		
Transcaucasian, excluding Azeri	5,479	2.6	6,804	2.8	7,722	2.9		
Armenian	2,787	1.3	3,559	1.5	4,151	1.6		
Azeri	2,940	1.4	4,380	1.8	5,477	2.1		
Georgian	2,692	1.3	3,245	1.3	3,571	1.4		
Muslims, including Azeri	24,738	11.8	35,158	14.5	43,772	16.7	64,000	21.3
Kazakh	3,622	1.7	5,299	2.2	6,556	2.5		
Kirgiz	969	0.5	1,452	0.6	1,906	0.7		
Tadzhik	1,397	0.7	2,136	0.9	2,898	1.1		
Turkmen	1,002	0.5	1,525	0.6	2,028	0.8		
Uzbek	6,015	2.9	9,195	3.8	12,456	4.7		
Other Muslims, of which, Tatar	8,973 4,968	4.2 2.4	11,171 5,931	4.6 2.5	12,451 6,317	4.7 2.4		
Jews	2,268	1.1	2,151	0.9	1,811	0.7		

Sources: Ellen Mickiewicz, *Handbook of Soviet Social Science Data* (New York: The Free Press, 1973); and Murray Feshbach, "Trends in the Soviet Muslim Population—Demographic Aspects," paper prepared for Symposium on Soviet Muslims and the Third World, Tel Aviv University, December 1980.

[a]Projections for 2000 derived from M. B. Tatimov, *Razvitye narodnonaseleniya i demograficheskaya politika* (The Development of the National Population and Demographic Policy) (Alma-Ata: Izdatel'stvo "Nauka" Kazakhskoy SSR, 1978). See text, page 21.

nationality has been published. However, in 1974, the late eminent Soviet demographer Boris Urlanis published his estimates of average annual crude birth rates by ethnic groups for the period from 1959 through 1969.[31] These show marked differences with estimates for the same period derived from officially reported crude birth rates for the different republics (as shown in Table 4, page 17). Urlanis estimated the average 1959-69 annual birth rate for all Russians in the USSR at 19.0 per 1,000 population. For the Russian Republic itself, the crude birth rate averaged 19.8 in these ten years. This higher figure may be due to the large number of high-fertility Muslims living in the RSFSR, as noted above. Urlanis' estimate for Uzbeks alone was 45.2, but the crude birth rate for Uzbekistan averaged a lower 39.2 in 1959-69, probably due in part to the 13 to 14 percent of low-fertility Slavs in Uzbekistan's population.

That ethnic fertility differentials play a role in determining the level of republics' birth rates is demonstrated by an almost unique set of fertility-related data by nationality, for Uzbekistan, shown in Table 7. These data from the 1959 and

1970 censuses appeared in an article by two demographers of Tashkent State University's Population Laboratory, published by Moscow University's Center for the Study of Population Problems. The Russians, with about 13 percent of Uzbekistan's population in both 1959 and 1970, bore only 7 to 8 percent of the children in these years and had crude birth rates about 40 percent below the average for the republic (23.7 versus 37.0 in 1959 and 19.3 versus 33.5 in 1970). The Uzbeks, on the other hand, representing about 65 percent of the population, had crude birth rates 13 percent to 17 percent higher than the average, and contributed 69 percent of all children born in the republic in 1959 and 74 percent in 1970. As lower-fertility Russians leave Uzbekistan to return, or migrate, to work in the Russian Republic (as appears to be happening since 1975), Uzbekistan's crude birth rate may remain at its present level rather than declining, as it has since 1960, and that of the Russian Republic may decrease even further, despite the new regionally differentiated pronatalist policies. Obviously, this would not happen if the Uzbeks' total fertility rate falls sharply (or the fertility rate of Russian women rises), but a marked reduction in Uzbek fertility is only likely in the long run.

Reasons for fertility differentials

The underlying causes of ethnic fertility differentials range from the higher levels of urbanization, housing shortages, and women's education and employment in the northern Slavic and Baltic republics to Muslims' traditional emphasis on large families, low rates of divorce, and taboos on abortion.

In the six northern republics in 1980, the urbanized share of the population ranged from 57 percent in Belorussia to over 70 percent in Estonia and in the most populous Russian Republic (see Table 15, page 37). Among the six Muslim republics, by contrast, the proportion was only 53 percent even in atypical Azerbaydzhan and ranged down to 34 percent in Tadzhikistan. For the country as a whole, the crude birth rate in urban

Table 7. Nationalities in Uzbekistan: Percentages, Birth Rates, and Share of Annual Births, 1959 and 1970

	Percent of total population		Birth rate (per 1,000 population)		Share of total births in each year (percent)	
Nationality	1959	1970	1959	1970	1959	1970
Total	100.0	100.0	37.0	33.5	100.0	100.0
Uzbek	62.1	68.5	41.7	39.2	68.9	74.4
Kazakh	4.2	4.0	34.3	36.9	3.9	4.3
Tadzhik	3.8	3.8	38.2	34.3	3.9	3.8
Karakalpak	2.1	2.0	39.1	33.5	2.2	1.9
Kirgiz	1.1	0.9	34.4	31.6	0.6	0.9
Turkmen	0.7	0.6	32.1	32.8	0.6	0.6
Russian	13.5	12.5	23.7	19.3	8.3	7.0
Ukrainian	1.1	0.9	26.0	23.0	0.7	0.6
Belorussian	0.1	0.2	34.4	25.1	0.1	0.1
Other	11.3	9.7	36.0	22.8	10.8	6.4

Source: O. Ata-Mirzayev and B. Goldfarb, "Perspektivy vosproizvodstva naseleniya Sredney Azii" (Perspectives for the Growth of the Population of Central Asia), in D. I. Valentey (ed.), *Nashe budushcheye glazami demografa* (Our Future Through the Eyes of a Demographer), *Sbornik narodonaseleniya* (Population Compendium), Issue No. 26 (Moscow: Statistika, 1979), p. 117.

TASS from Sovfoto

Women workers in a silk factory of Kiev, capital of the Ukraine in the Slavic region.

areas was 17.0 per 1,000 population in 1980, compared to 20.4 in rural areas.[32]

Urban housing shortages explain much of this differential. The Minister of Housing I. V. Arkhipov himself admitted in June 1981 that 20 percent of urban families are still forced to share already cramped apartments with other families.[33] The number of new dwellings constructed each year has been below the number of annual marriages since 1969.[34] Thus most newlyweds are forced to live with their parents for many years before receiving a place of their own.

Virtually all "able-bodied" Slavic and Baltic women work in the "socialized economy" (a higher proportion than among Central Asian women, as noted) —both because Soviet ideology decrees that all must work and because two incomes are increasingly necessary to buy "luxury" goods, when available. But after a weekly 40 to 42 hours on the job, women spend an average of more than 30 hours a week waiting in long lines to shop for scarce consumer goods and on household chores that are unrelieved by labor-saving appliances, according to estimates by Soviet sociologist V. G. Patrushev.[35] Although younger men now help more than husbands formerly did, a recent survey in the RSFSR revealed that men averaged only 15 hours a week on household chores.[36]

Child care. Child-care shortages and inadequacies are another reason why overburdened Soviet working women are reluctant to have more than one or two children. Accompanying the drive to increase women's employment in the 1960s, child-care facilities were expanded enormously. Still, only 40 percent of preschool-aged children can be accommodated and there are many reports of overcrowded facilities and undertrained, overworked and underpaid staff resulting in such high rates of illness among children that many mothers refuse to resort to state-run day-care centers, even when places are available. Central Asian women are apparently even less likely to use such facilities than women in other republics. In 1972, the proportion of children under age five in kindergartens or nurseries in Central Asia was about half of the national rate.[37] The new pronatalist policy puts much emphasis on the expansion and improvement of child-care facilities as an important key to increasing fertility without reducing women's employment. But like housing, this sector is unlikely to capture a larger share of capital investment, with the growth of all investment now reduced, and with higher priorities for food, energy, and defense.

Divorce. High rates of divorce also help reduce Slavic women's average fertility rates. Figures for 1979 from the republic of Kirgiziya illustrate the difference in Russian and Muslim divorce rates. In the capital, Frunze, with five times as many Russians as Muslim Kirgiz people according to the 1970 census, the divorce rate was 4.6 per 1,000 population compared to only 0.2 per 1,000 in a rural area of the republic with less than 5 percent Russians.[38] Divorces have been easily available and have mounted rapidly since the divorce

law was liberalized in 1965. Evidently concerned about the impact on Slavic fertility and family life, the government has introduced experimental courses on family life in schools of the Slavic region, family counseling centers have appeared in some areas, and the recent intensification of the campaign against alcoholism (a major cause of divorce) is undoubtedly also aimed at lowering divorce rates.[39] It seems likely that some restrictions on divorce will be reinstituted.

Abortion and contraception. Abortion is common among Slavic and Baltic women and rare among Muslim women. Since restrictions on abortion were again lifted in 1956,[40] abortion has remained the primary source of birth control in the Soviet Union, by the Soviets' own admission. Pills, imported from Hungary and Bulgaria, require a prescription, are hard to obtain, especially in the countryside, and are distrusted for their side effects. Soviet-manufactured condoms and IUDs, when available, are of poor quality. In a June 1981 news conference, Alexander Smirnov, deputy chief of the social planning and population department in the State Planning Committee (GOSPLAN), declared that there are "slightly" more abortions than births in the Soviet Union every year. If correct, this would be down from the previously estimated rate of three or more abortions for every live birth.[41] An article published six months after Smirnov's statement reported that in some parts of the Russian Republic in 1979, "the relationship between abortions and births exceeds 3 to 1."[42] A survey of 4,000 women in Minsk in Belorussia, reported in May 1981, found that among women who had had at least one abortion, more than 50 percent had had three or more and some 15 percent had had five or more.[43] These figures cover only recorded legal abortions. A survey in Leningrad suggests that 16 percent of all abortions are unreported.[44] Thus the true rate of abortion may be higher than the presently claimed "slightly" more than one abortion for every live birth.

Soviet authorities appear to have mounted a campaign to restrict abortion, especially abortions of first pregnancies, ostensibly on the grounds of surveys which showed that 20 percent to 38 percent of young women became chronically ill after first abortions and up to 8 percent became infertile.[45] Restricting abortion has not been mentioned as part of the new pronatalist policy, but Boris Urlanis may have been reflecting some official thinking along these lines in his article of December 1980 which deplored abortion not only as a health hazard but also as "a lost conception."[46]

Illegitimacy. In the same article, Urlanis flatly advocated that women bear children on any basis, whether legitimate or not. One new Soviet citizen is good, he said, two would be better, and three the best, since the third child would increase population growth and the country's labor resources. Although illegitimacy was tolerated at the beginning of the Soviet regime, out-of-wedlock children were accorded fewer rights than

TASS from Sovfoto

Small children in a kindergarten in Moscow.

legitimate children between 1949 and 1968. These rights have been restored and the Soviet leadership has endorsed Urlanis' view with Premier Tikhonov's 26th Party Congress speech and later measures increasing allowances for single mothers by a multiple of four, as part of the new pronatalist policy. This will doubtless encourage a further increase in out-of-wedlock childbearing, which reportedly declined to about 7 percent of all births in the mid-1970s after hovering at 16 to 18 percent from 1944 to 1966, but has now climbed back to 9 or 10 percent of total births.[47] This aspect of the pronatalist policy could have the unintended effect of contributing to the rise in infant mortality, since many studies, especially in the U.S., reveal that death rates tend to be higher among infants born out of wedlock.[48]

Re-restricting divorce and abortion, if that comes to pass, and encouragement of out-of-wedlock childbearing may help boost Slavic (and especially Russian) fertility. Such measures would be irrelevant among the Muslim nationalities. On the other hand, Russian small-family norms can be expected to spread among younger, better educated Muslim women living in cities and working in "modern" jobs. When (and if) that happens, the Soviet Union can expect to experience still more shortages of labor and potential army recruits in the 21st century.

Labor Shortages and Military Manpower

The primary factor behind the new, regionally differentiated pronatalist policy was undoubtedly the drop in annual increases in the working-age population and in numbers of draft-age males and the shifts in the regional sources of manpower which already confront Soviet planners in the 1980s. As the net result of past population losses, increasing death rates among working-age men, and declining fertility, the leadership can no longer count on the traditional means of expanding industrial growth—abundant supplies of manpower, or new workers for new jobs. With declining fertility, military conscription may have to be extended from two to three years to compensate for a nearly half-million reduction in the number of 18-year-old males during the 1980s in order to maintain the Soviet armed forces at their 4.8 million level.

Labor supplies

Brezhnev warned of impending manpower shortages and the need to compensate with increased labor productivity already at the 25th Party Congress in 1976:

> "In the 1980s, the resolution of this task [maintaining rapid industrial growth] will become especially imperative. This is linked first of all to the exacerbation of the problem of labor resources. We will need to depend entirely on raising labor productivity and not on mobilizing additional labor force."[49]

Table 8 shows the numbers behind Brezhnev's warning. During the 1980s, the net increase in the population of working, or "able-bodied" ages (men aged 16-59 and women aged 16-54) will be less than 6 million (3.6 million during the first half of the decade and 2.3 million in the second half). During the 1970s, the estimated increase was over 24 million, or four times greater.

The regional outlook is even bleaker. In the RSFSR (which alone produces 60 percent of the gross national product) and in the Ukraine, the working-age population will actually decline in number between 1980 and 1995, and in Belorussia the increase in these three five-year periods will be only a scant 5 to 30 percent of what it was in the last half of the 1970s. Only in Central Asia will the increase be about the same as it was in 1975-80. By 2000, 20 percent of the country's working-age population will be located in the four Central Asian republics and Kazakhstan, compared to 14 percent in 1980.

Table 8. Projected Population of Working Ages, USSR, Selected Republics and Regions: 1980-2000

(Males aged 16-59, females aged 16-54. Numbers as of January 1, in thousands)

USSR, republics and regions	1980	1985	1990	1995	2000
USSR	154,806	158,455	160,796	163,728	170,968
Net increase in preceding 5 years	11,788	3,649	2,341	2,932	7,240
Index, January 1, 1975-January 1, 1980 = 100	100	31	20	25	61
Slavic republics					
RSFSR	83,791	83,543	82,462	81,817	83,449
Net increase	4,956	- 248	- 1,081	- 645	1,632
Index	100	•	•	•	33
Ukraine	29,289	29,250	29,237	28,975	29,159
Net increase	1,933	- 39	- 13	- 262	184
Index	100	•	•	•	10
Belorussia	5,727	5,861	5,886	5,908	6,132
Net increase	451	134	25	22	224
Index	100	30	6	5	50
Moldavia	2,323	2,410	2,493	2,593	2,740
Net increase	193	87	83	100	147
Index	100	45	43	52	76
Baltic republics	4,781	4,805	4,805	4,766	4,777
Net increase	218	25	- 1	- 39	11
Index	100	12	•	•	5
Transcaucasus	8,079	8,879	9,389	9,900	10,775
Net increase	1,162	800	519	502	875
Index	100	69	45	43	75
Kazakhstan	8,664	9,436	10,106	10,780	11,671
Net increase	1,148	772	670	674	891
Index	100	67	58	59	78
Central Asia	12,683	14,789	16,919	19,488	22,766
Net increase	2,291	2,106	2,130	2,569	3,278
Index	100	92	93	112	143

Source: Based on Godfrey S. Baldwin, "Population Projections by Age and Sex: For the Republics and Major Economic Regions of the USSR, 1970 to 2000," *International Population Reports*, Series P-91, No. 26 (Washington, D.C.: U.S. Government Printing Office, 1979).

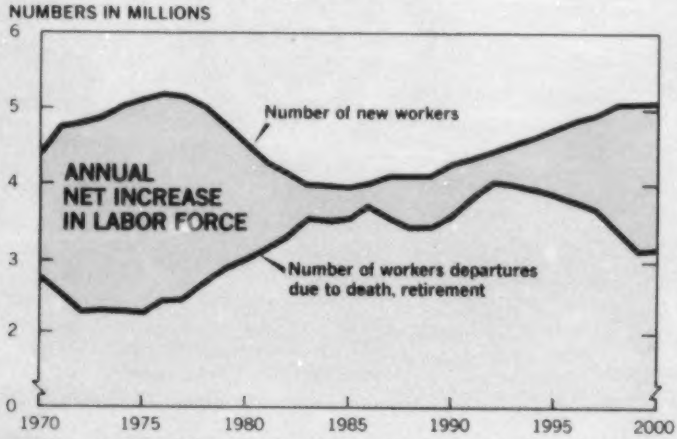
•not applicable.

In the middle of the 1980s, the nationwide net gain in the working-age population (adding in boys and girls who turn 16 and subtracting people dying during the working ages and those reaching retirement ages) will be just 300,000 per year, down from the peak annual gain of 2.7 million persons in the mid-1970s (see Figure 4, page 28). By 2000, the annual net gain should be back up to 1.9 million.

A high 88 percent of working-age people already hold a job. Applying this employment rate to the projected numbers of men and women of working age suggests that labor force growth will drop to 0.44 percent per year between the census of January 1979 and January of 1990 and increase only to 0.61 percent per year in the 1990s. Between the censuses of 1970 and 1979, the annual growth was 1.77 percent.

Few resources are available to expand the work force. Pensioners are be-

Figure 4. Annual Net Increase in Soviet Labor Force, 1970-1980, and as Projected for 1980-2000



Source: Murray Feshbach, "A Different Crisis," *The Wilson Quarterly*, Vol. 5, No. 1 (Winter 1981) p. 121. Copyright 1980 by The Woodrow Wilson International Center for Scholars.

ing encouraged to remain at, or return to, work; the limit on how much a worker can earn and still draw a pension was raised in late 1979, and over 6 million pensioners reportedly held a job in 1980—some to supplement meager pensions of about $10 a month.[50] But the gain from this source cannot amount to much. The drive to mobilize women has left a legacy of reduced fertility and few unemployed women, except in the high-fertility southern republics. With nearly enough facilities now available to offer a full secondary school education through the obligatory ten years of schooling, few young people enter the work force before age 18. Then 18- and 19-year-old men are drawn off to the military. Foreign workers can scarcely fill the labor gap, though increasing numbers have been recruited in recent years, particularly from Bulgaria, Poland, North Korea and Vietnam, in what appears to be a move to encourage the free flow of labor among socialist countries as much as an attempt to alleviate Soviet labor shortages.[51] So far, their numbers—perhaps 55,000—are barely noticeable in comparison with the 2 million job vacancies in Soviet industry in 1981 and in a work force of perhaps 130 million.

To maintain economic growth, Soviet planners thus have no alternative but to attempt to distribute existing labor supplies more "rationally" and find ways to increase industrial and agricultural efficiency and worker productivity. Held back by cultural and family ties, Central Asian Muslims, unlike the Slavs, resist offers of higher pay to migrate to where the jobs are, whether in the industrialized north, the oil fields and coal mines of Siberia, or even in the cities of their own republics.[52] Central authorities seem to have accepted this fact and now plan to develop more light, labor-intensive industry in Central Asia. This will be hampered by Central Asian workers' lack of training and poor command of Russian. Ironically, labor shortages coexist with labor surpluses in Central Asia, but the jobs that go begging are for skilled workers, both in cities and in rural areas.

To better match workers with job vacancies, there probably will be a

move to restrict people's freedom to choose a job. In the current Soviet system, new young workers are assigned to their first job for three years, but are then allowed to change jobs if they wish. An internal passport is required if this involves a move to a capital city or border areas and certain internal areas, but movement outside such areas has been comparatively free. For overcrowded cities like Moscow and Leningrad, a *propusk*, or certificate of residence, is also required. By 1981, everyone aged 16 and over was to be required to have an internal passport, giving name, nationality, etc. This should give the central authorities better control over people's movements and might have been aimed at making it possible to move people forcibly from "labor-surplus" areas (Central Asia) to "labor-deficit" areas (European Russia and Siberia), and prevent people from leaving labor-short areas (e.g., the Non-Black-Earth agricultural area). The State Committees on Labor in the 15 republics have been directed to encourage more pensioners to work and may now also be expected to exercise more control over local labor forces.[53] Ultimately, however, as Brezhnev emphasized in his 1976 speech, only increased efficiency and mechanization can solve the USSR's labor problems.

Military manpower

The backbone of the USSR's military might is its armed force estimated at 4.8 million men in 1979, nearly 2½ times the number of U.S. armed forces in 1979 (2.0 million) and more than in China (4.5 million).[54] Most of the Soviet armed forces consists of 18- and 19-year-old conscripts; only about 12 percent of men this age escape the required two years of military service. In 1980, 2.5 million males reached their 18th birthday; by 1990, the number will fall to 2.1 million and is expected to be back up to 2.5 million only in the year 2000 (see Table 9).

Still more worrisome to Soviet leaders is the shift in the ethnic makeup of military manpower that will follow from fertility differentials. In 1970, 56.3 percent of 18-year-old potential draftees came from the RSFSR. The proportion from the southern tier of the country (the Transcaucasus, Kazakhstan and Central Asia) was 18.7 percent, or one-third the figure from the Russian Republic. By 2000, the RSFSR share of 18-year-old males will drop to 44 percent while that of the southern republics increases to 33 percent, or three-quarters of the RSFSR figure.

With most conscripts from southern republics coming from non-Slavic minorities, this dramatic increase in draftees from those areas poses a threat to the efficiency of the armed forces. Non-Slavic minority draftees have demonstrated a notoriously poor knowledge of Russian which is the sole language of communication in this most Russian of all Soviet institutions.[55] Mili-

Table 9. Males Aged 18, USSR and Selected Regions: 1970-2000

(Data as of July 1; numbers in thousands)

Regions	1970		1980		1990		2000	
	Number	Percent of total	Number	Percent of total	Number	Percent of total	Number	Percent of total
USSR	2,238	100.0	2,542	100.0	2,135	100.0	2,544	100.0
RSFSR	1,261	56.3	1,251	49.2	959	44.9	1,124	44.2
Transcaucasus	113	5.0	170	6.7	141	6.6	176	6.9
Kazakhstan and Central Asia	307	13.7	495	19.5	504	23.6	668	26.3

Sources: Unpublished estimates and projections prepared by the Foreign Demographic Analysis Division, U.S. Bureau of the Census, March 1977, medium series.

Table 10. Crude Death Rates, USSR and Republics: 1950-1980

(Deaths per 1,000 population)

USSR and republics	1950	1955	1960	1965	1970	1975	1980
USSR	9.7	8.2	7.1	7.3	8.2	9.3	10.3
Slavic republics							
RSFSR	10.1	8.4	7.4	7.6	8.7	9.8	11.0
Ukraine	8.5	7.5	6.9	7.6	8.9	10.0	11.4
Belorussia	8.0	7.4	6.6	6.8	7.6	8.5	9.9
Moldavia	11.2	8.3	6.4	6.2	7.4	9.3	10.2
Baltic republics							
Estonia	14.4	11.7	10.5	10.5	11.1	11.6	12.3
Latvia	12.4	10.6	10.0	10.0	11.2	12.1	12.7
Lithuania	12.0	9.2	7.8	7.9	8.9	9.5	10.5
Transcaucasus							
Armenia	8.5	8.8	6.8	5.7	5.1	5.5	5.5
Azerbaydzhan	9.6	7.6	6.7	6.4	6.7	7.0	7.0
Georgia	7.6	6.7	6.5	7.0	7.3	8.0	8.6
Kazakhstan	11.7	9.2	6.6	5.9	6.0	7.1	8.0
Central Asia							
Kirgiziya	8.5	7.8	6.1	6.5	7.4	8.1	8.4
Tadzhikistan	8.2	8.9	5.1	6.6	6.4	8.1	8.0
Turkmenistan	10.2	10.4	6.5	7.0	6.6	7.8	8.3
Uzbekistan	8.7	8.2	6.0	5.9	5.5	7.2	7.4

Sources: TsSU, *Naseleniye SSSR 1973*, *Nar. khoz. v 1975* and *1980*.

tary efficiency could also be impaired by rising ethnic tensions within the ranks. These problems, readily acknowledged in a recent book by General Nikolai Ogkarov, Chief of Staff of the armed forces,[56] are likely to become more serious in the two decades ahead.

Mortality

Soviet leaders are now also acknowledging the health-care inadequacies that underlie the country's most notorious demographic problem—a rise in death rates among almost all age groups, but particularly among infants and young to middle-aged males. Barring times of war, this trend is unique in the history of developed countries. Brezhnev outlined current efforts to improve health care and continued shortcomings in his February 1981 speech to the 26th Party Congress.[57] However, it is evident that the Soviets are reluctant to give greater publicity to the mortality rise by publishing data that would fill in some of the details. Crude death rates still appear regularly but, as noted, all detailed data related to mortality have disappeared from the standard statistical publications since the mid-1970s, although state planner Smirnov mentioned current figures for infant mortality and life expectancy in his news conference of June 1981.

Mortality trends

Until the mid-1960s, the Soviet Union followed the standard demographic transition track of simultaneously industrializing and reducing mortality. Once past the catastrophic human losses of the country's first 30 years, the crude death rate stood at the remarkably low level of 9.7 deaths per 1,000 population in 1950 (see Table 10

Table 11. Age-Specific Death Rates, USSR: 1958-59 to 1975-76

(Deaths per 1,000 population in age group)

Age group	Two-year average rates							
	1958-59	1963-64	1965-66	1969-70	1970-71	1971-72	1973-74	1975-76
All ages	7.4	7.1	7.3	8.2	8.2	8.4	8.7	9.4
0-1[a]	40.6	28.8	26.1	24.7	22.9	24.7	27.9	31.1
0-4	11.9	7.8	6.9	6.9	6.7	6.8	7.7	8.7
5-9	1.1	0.8	0.8	0.7	0.7	0.7	0.7	0.7
10-14	0.8	0.6	0.6	0.6	0.5	0.5	0.5	0.5
15-19	1.3	1.0	1.0	1.0	1.0	1.0	1.0	1.0
20-24	1.8	1.6	1.6	1.6	1.6	1.6	1.6	1.7
25-29	2.2	2.0	2.0	2.2	2.2	2.1	2.0	2.1
30-34	2.6	2.5	2.6	2.8	2.8	2.8	2.8	3.0
35-39	3.1	3.1	3.2	3.7	3.8	3.7	3.6	3.8
40-44	4.0	3.7	3.9	4.7	4.7	4.8	4.9	5.3
45-49	5.4	5.1	5.1	6.0	6.0	6.1	6.4	6.9
50-54	7.9	7.7	7.9	8.7	8.7	8.8	8.8	9.3
55-59	11.2	10.7	11.1	11.7	11.8	11.9	12.3	13.4
60-64	17.1	17.1	17.2	18.0	17.9	18.1	18.2	18.9
65-69	25.2	24.1	25.5	27.5	26.9	26.8	27.0	28.0
70 and over	63.8	63.6	65.8	75.7	74.9	74.8	73.5	75.0

Source: John Dutton, Jr., "Changes in Soviet Mortality Patterns, 1959-77," *Population and Development Review*, Vol. 5, No. 2 (June 1979) Table 5, pp. 276-277, based on official Soviet sources.

[a]Figures for age 0-1 are for the second of the two years shown, i.e. 1958-59 = 1959 data.

and Figure 3, page 18), down from the pre-World War I level of 29. Among the republics, the officially reported rates for 1950 ranged from 8.0 in Belorussia to 14.4 in Estonia. Unlike the U.S., where the 1950 rate (9.6) was virtually the same, the Soviet Union recorded a continuing steady decline in its national crude death rate to 6.9 in 1964. Since then, if official Soviet data are to be credited, the rate has increased by 50 percent to 10.3 in 1980. The U.S. crude death rate was 8.8 in 1980.

A population's crude death rate automatically goes up when fewer children are being born and thus elderly persons—among whom death is more likely—make up more of the total population. However, the dramatic rise in the national crude death rate of the Soviet Union is beyond what can be explained by the population's "aging" so far. This can be demonstrated by applying the age-specific death rates for 1975-76 (the last to be reported) shown in Table 11 to estimates of the number of people in each five-year age group in 1976 through 1980, prepared by Godfrey Baldwin of the U.S. Census Bureau's Foreign Demographic Analysis Division. If the age-specific death rates had remained unchanged in the last half of the 1970s, the crude death rate would have been 9.8 rather than 10.3 in 1980.

The official age-specific death rates shown in Table 11 also show a low point around 1964 in all age groups from 25-29 on up. Every group aged 30 and over had higher death rates in 1975-76, when the figures were last published, than in 1958.

The age-specific death rates for males and females separately, last published for 1973-74, show that men have fared much worse than women. In the prime working ages of 20-44, the death rates of males increased from levels which were 2 to 2½ times as high as those of females in 1963-64 to 3 to 3½ times as high in 1973-74 (see Table 12, page 32).

Infant mortality. For infants under age

Table 12. Death Rates at Ages 20-44, by Sex, USSR: 1963-64 and 1973-74

(Deaths per 1,000 population in age group)

Age group	Males		Females		Ratio: Males/females	
	1963-64	1973-74	1963-64	1973-74	1963-64	1973-74
20-24	2.2	2.5	1.0	0.8	2.2	3.1
25-29	2.8	3.1	1.2	0.9	2.3	3.4
30-34	3.7	4.4	1.5	1.4	2.5	3.1
35-39	4.5	5.4	1.9	1.8	2.4	3.0
40-44	5.4	7.4	2.5	2.6	2.2	2.9

Sources: TsSU, *Nar. khoz. v 1964*, pp. 36-37, and *Vestnik statistiki*, No. 12, December 1975, p. 74.

one, the low point in the death rate came in 1971. The infant mortality rate that year was 22.9 deaths per 1,000 population aged 0-1 (Table 11). This represented a spectacular drop to a little more than one-quarter of the rate of 80.7 reported for 1950, only 21 years earlier. By 1974, however, the rate had gone up again to 27.9. No official infant mortality rates have been published since that time. However, working from the previous correlation between the infant mortality rate and the death rate for children aged 0-4, Christopher Davis and Feshbach estimated that the infant mortality rate was 29.4 in 1975 and 31.1 in 1976.[58] A secondary source, co-edited by the then Soviet Minister of Health S. P. Burenkov, cited a slightly higher figure c. 30.8 for 1975.[59] By 1979, according to our estimates, the rate was 35 or 36.

All these rates are actually too low because they follow the unorthodox Soviet practice of excluding from the mortality totals the approximately 14 percent of infants of less than seven months' gestation, less than 1,000 grams in weight, and less than 35 centimeters in length who die within seven days of birth. Adjusted for this discrepancy, the estimated 1979 figure becomes 39 or 40—more than three times the U.S. infant mortality rate of 12.9 in 1979. (The 1981 U.S. rate was 11.7.)

At his news conference of June 1981, state planner Smirnov gave an infant mortality rate for 1980 variously reported as 28, 29, and 30 by the foreign newsmen present.[60] All four published reports on the conference agree that Smirnov acknowledged that there had been an apparent rise in infant mortality but claimed that this was due to improved statistical reporting. Smirnov's figure for 1980, whether 28, 29, or 30, should be compared with our unadjusted estimate for 1979 of 35 or 36, but it is still probably too low. However, recent information from Tadzhikistan suggests that some of the rise in officially reported infant death rates could be due to underreporting of infant deaths in past years. Index numbers published in the republic's health journal make it appear that Tadzhikistan's infant death rate soared from 28 in 1961 to 90 in 1977 and dropped to the 60's in 1979.[61] Although other rates reported for Tadzhikistan have been relatively very high (The 1974 rate for its capital, Dushanbe, was 52 compared to the national rate of 27.9), this spectacular jump probably represents both an undercount in the 1961 rate and a real rise in infant mortality.

Life expectancy. The roller-coaster trends in age-specific death rates are reflected in the figures on life expectancy. The first officially reported post-war figures, for 1954-55, put life expectancy at birth at 64 years for males and females combined, 61 for males separately, and 67 for females (see Table 13, page 34). A decade later, in the mid-1960s, the reported figures were up to 70 for both sexes combined, 66 for males, and 74 for females—

exactly the same as the U.S. figures for these years (1965, 1966, and 1967), also shown in Table 13. From then until the last officially published figures, for 1971-72, life expectancy for both sexes combined and for females remained the same, but dropped by two years to 64 for males.

The only information from a Soviet source since that time came from Smirnov at his June 1981 news conference. He was reported to have said both that, "life expectancy [for the sexes combined] had stabilized at 70 years," and "average life expectancy fell slightly from 70 years to just over 69 years."[62] Baldwin, in a careful examination of data on births and deaths since the last published figures, for 1971-72, has estimated that life expectancy had dropped further by 1980 to 61.9 for males and was about the same, 73.5, for females (see Table 13, center column). In the U.S. in 1978—the last year for which the figures by sex are available—the figures were 69.5 for males and 77.2 for females.

Baldwin's series of estimates in the center column of Table 13 suggests that, since the peak in 1964, life expectancy for Soviet males has dropped by five years (67.0 to 61.9) and female life expectancy has dropped by two years (75.6 to 73.5). Along with the decline for both sexes, the gap between them has widened. Already at the beginning of the 1970s a male child born in the Soviet Union could be expected to live ten years less than a newborn girl. Now the difference is 11.6 years. No other developed country has such a gap.

At a round table on family problems in early 1981, A. Volkov, head of the demography department of the Central Statistical Administration's research institute, gave an idea of the excessive male mortality that is widening the life expectancy gap between Soviet men and women. He stated that premature deaths of males now exceed divorces as a reason why women become heads of household. He gave no ages, but presumably was referring to people in the range from 30 to 50 when he reported that there were 8 million premature deaths between the 1970 and 1979 censuses, most of them occurring to males.[63] No wonder the 26th Party Congress in February 1981 paid such attention to population, family, and health issues!

Although few data were published, the adverse mortality trends did get some public mention in the 1970s. In an important article of December 1976 in the Russian Republic's health journal, Professor A. Boyarskiy listed the following among the problems that had "disturbing implications and required undeviating study":

- rise in the male age-specific death rates;
- reduction in the rate of increase in life expectancy;
- rise in the gap between life expectancy of males and females; and on the next page he adds:

"and in recent years, there has also appeared a disturbing tendency of an increase in infant mortality."[64]

What lies behind these disturbing trends?

Reasons for mortality increases

Infant mortality. In our 1980 report on *Rising Infant Mortality in the U.S.S.R. in the 1970's*,[65] Davis and I examined Soviet sources exhaustively and singled out the following factors which seem most important in explaining the mortality rise at the earliest age.

Influenza epidemics which still occur almost annually in the USSR cause widespread illness among infants, leaving them particularly vulnerable to pneumonia which is cited as a leading cause of infant death. Increasing alcoholism, reportedly the third leading cause of women's illness, and rising pollution seem to be increasing women's chances of delivering defective children (the number of such births is

Table 13. Life Expectancy at Birth, USSR and United States:

USSR						
Officially reported				Estimated		
Two-year average	Both sexes	Male	Female	Year	Male	Female
1954-55	64	61	67	1955	62.2	70.4
1955-56	67	63	69	1956	64.1	71.9
1957-58	68	64	71	1958	65.4	73.4
1958-59	69	64	72	1959	64.4	72.7
1960-61	70	65	73	1961	66.1	74.2
1962-63	70	65	73	1963	66.2	74.5
1963-64	70	66	73	1964	67.0	75.6
1964-65	70	66	74	1965	66.2	74.8
1965-66	70	66	74	1966	66.3	75.3
1966-67	70	66	74	1967	65.8	74.8
1968-69	70	65	74	1969	64.8	74.4
1970-71	70	65	74	1971	64.8	74.7
1971-72	70	64	74	1972	64.5	74.2
				1975	63.2	73.8
				1976	63.1	73.9
				1977	67.7	74.1
				1978	62.6	74.3
				1979	62.0	73.8
				1980	61.9	73.5

Sources: USSR: TsSU, *Nar. khoz.*, various years, *SSSR v tsifrakh v 1970 gody* (The USSR in Figures in 1970), 1971, p. 215, and *Strana Sovetov za 50 let* (The Land of the Soviets Over 50 Years), 1967, p. 266. USSR estimated data: 1950-1969, Godfrey S. Baldwin, "Estimates and Projections of the Population of the USSR, by Age and Sex, 1950 to 2000," *International Population Reports*, Series P-91, No. 23 (Washington, D.C.: Government Printing Office, 1973) p. 14; and 1970-1980: Unpublished estimates prepared by Godfrey Baldwin, Foreign Demographic Analysis Division, U.S. Bureau of the Census.

said to be increasing by 5 percent a year) who are more likely to die in infancy. These factors, plus poor prenatal care among busy working women and high rates of abortion are probably linked with the increasing proportion of premature, underweight newborns whose chances of dying before age one are 20 times those of full-term infants. Breastfeeding is on the decline and nutritionally inadequate, sometimes contaminated, formula substitutes leave infants prone to often lethal intestinal illnesses and rickets (caused by a deficiency of Vitamin D) which makes them more susceptible to pneumonia. Increasing rates of divorce and illegitimacy mean there are more children of single mothers who are likely to get inadequate care when they are ill. Certainly illness rates are high among infants whose mothers must resort to crowded, understaffed day-care centers. Many deaths appear to occur because parents wait too long to seek medical care for sick infants.

The working ages. Alcoholism, now pandemic in the USSR, is undoubtedly a leading factor behind the mortality rise among working-age Soviet men, although heavy drinking is also increasing among women and teenagers. Alcohol consumption has also increased in the U.S., but the primary difference is that,

1954-55 to 1980

United States			
Officially reported			
Year	Both sexes	Male	Female
1955	69.6	66.7	72.8
1956	69.7	66.7	72.9
1958	69.6	66.6	72.9
1959	69.9	66.8	73.2
1961	70.2	67.1	73.6
1963	69.9	66.6	73.4
1964	70.2	66.8	73.7
1965	70.2	66.8	73.8
1966	70.2	66.7	73.9
1967	70.5	67.0	74.3
1969	70.5	66.8	74.4
1971	71.1	67.4	75.0
1972	71.1	67.4	75.0
1975	72.5	68.7	76.5
1976	72.8	69.0	76.7
1977	73.2	69.3	77.1
1978	73.3	69.5	77.2
1979	73.8	—	—
1980	73.6	—	—

United States: 1950-1978: U.S. Department of Health and Human Services, *Vital Statistics of the United States, 1978*, Vol. 2, *Life Tables*, Nos. 81-1104 (Hyattsville, Md.: 1980) pp. 5-14; and 1979-1980: National Center for Health Statistics, "Annual Summary of Births, Deaths, Marriages, and Divorces: United States, 1980," *Monthly Vital Statistics Reports*, Vol. 29, No. 13 (September 1981) p. 3.

in the USSR, hard liquor (vodka and *samogon*, Russian moonshine) makes up 65 percent of all alcohol consumed, versus 40 percent in the U.S. Also, as Duke University Professor Vladimir Treml points out, gulping down hard liquor in the Soviet style raises the level of ethanol in the bloodstream more rapidly and dangerously than consuming several drinks slowly, as in the U.S.[66] Urban families in the Soviet Union devote nearly the same proportion of their weekly budgets to alcohol as U.S. families do to food.

Treml cites evidence that "accidents, poisonings, and injuries" are the third most frequent cause of death among Soviet men; half of these deaths are alcohol-related. He also notes that 40,000 persons—largely males of working age—died from acute alcohol poisoning in the USSR in 1976.[67] This number was 100 times that of the U.S. (400) in that year, or more than 88 times the U.S. rate per 100,000 population (15.9 versus 0.18).

John Dutton, a researcher at North Carolina State University, presents convincing evidence that increased alcoholism, among males in particular and especially males in the Russian Republic, explains much of the sharp rise in the Soviet death rate for heart disease.[68] (See Table 14, page 36). This rate more than doubled from 247.3 per 100,000 population in 1960 to 527.9 in 1979. In the U.S., the rate dropped 20 percent in this period, from 521.8 to 433.0.[69] Heart disease, the leading cause of death in the Soviet Union (as in the U.S.), is, of course, also linked to smoking (not yet as common in the USSR as in the U.S., but growing), stress, and blood pressure problems. However, it is significant that deaths from ischemic, or coronary, heart disease, which is often linked with alcohol abuse, have risen from 39 to 51 percent of total deaths from various types of heart disease.

Cancer, now accounting for 14 percent of annual deaths, is the second leading cause of death in the USSR. Here, too, death rates have risen faster for men than for women.

Medical care. Medical personnel and facilities grew faster than the population in the 1970s and the USSR now has twice as many health personnel as the U.S. But the emphasis has been on expansion rather than upgrading facilities and services. Thus the Soviet medical system is unable to cope with the increasing challenges to the population's health. Physicians, mostly low-paid women, work short hours (28 hours a week), crowded clinics are open only part of the day, the waits are long, diagnostic work is haphazard, and

Table 14. Death Rates by Cause, USSR: 1960, 1970, 1980

(Deaths per 100,000 population)

Cause of death	1960		1970		1980	
	Rate	Percent of total deaths	Rate	Percent of total deaths	Rate	Percent of total deaths
All causes	713.4	100.0	822.4	100.0	1,033.3	100.0
Heart diseases	247.3	34.7	384.7	46.8	542.8	52.5
Cancer	115.5	16.2	127.2	15.5	140.0	13.6
Other	350.6	49.1	310.5	37.8	350.5	33.9

Sources: John Dutton, Jr., "Changes in Soviet Mortality Patterns, 1959-77," *Population and Development Review*, Vol. 5, No. 2 (June 1979) p. 279; and *Vestnik statistiki*, No. 11, November 1981.

doctor-patient relations are often unsatisfactory. Medical equipment is in short supply and often out of date and even such rudimentary medicines as aspirin are often unavailable, especially in rural areas.[70]

That the leadership is concerned over these problems was evident in legislation issued in September 1977 which called for better doctor-patient relations, better access to polyclinic and out-patient service, and more medical equipment.[71] In his February 1981 speech, Brezhnev lauded the growth in patient visits per polyclinic and expansion of cardiology centers, but also noted the continued shortages of medical staff and medicines, and absolescence of medical equipment.[72] While increased efforts and the launching of research in medical demography indicate that the leadership is concerned about the nation's deteriorating health and rising death rates, the proportion of the national budget devoted to health needs fell from 6.6 percent around 1965 to 5.2 percent in 1978.[73] The fact that the increase in death rates coincides with this reduced level of government spending on health is probably not purely accidental.

Novosti from Sovfoto

A women medical worker conducts a checkup among farmworkers in the Rostov Region, in the European part of the Russian Republic.

Urbanization and Emigration

Urbanization trends

The Soviet Union remained a predominantly rural country for the first four decades of its history. The urban share of the population—only 18 percent in 1913 under the Russian Empire—was still only one-third in 1940 as World War II began. The break-even point, with half the population in urban areas and half rural, came only in 1961. The U.S. population had reached this point

four decades earlier, in 1920.

After the 1970 census, P. G. Pod"yachikh, then in charge of the census, projected that the national population would be 68 percent urban by 1980. The actual figure was 63 percent (see Table 15). The authorities had evidently failed to foresee the slowdown in the rate of urbanization during the 1970s. Throughout the country, continued housing shortages inhibited migration to urban areas. In the Russian Republic, the huge Non-Black-Earth Zone project was launched and a drive begun to recruit new workers for that area which may have drawn some urban dwellers from both the RSFSR and other republics to the rural areas of the Russian Republic. This may be part of the reason why the RSFSR registered a net in-migration in 1975 for the first time in 25 years,[74] although most of those migrants probably went to urbanized regions of the RSFSR. The Non-Black-Earth Zone project probably also slowed out-migration from rural areas of the RSFSR, even with the lamented exodus of young people. However, there is evidence that rural flight is increasing in this zone, as a result of a plan to resettle at least 200,000 families from tiny hamlets in larger, supposedly more efficient town centers. Forced to abandon their ancestral homes, many village families are instead moving to urban areas.[75]

Central Asians, and especially Muslims, as we have seen, continue to resist leaving their rural areas, even for cities in their own republics and especially to cities in the northern republics. Most migrants who do leave Central Asia are probably Russians and other non-Central Asians. The reluctance of non-Slavic peoples to migrate is evident from 1979 census data which show, in almost all cases, that higher proportions of non-Slavic groups were living in the republic bearing their name in 1979 than in 1970.

Tadzhikistan in Central Asia has even experienced a reversal in urbanization. Undoubtedly because fertility continues even higher in rural than in urban areas of that republic and there is virtually no out-migration from rural areas, the urban proportion of the population dropped from 37 percent in 1970 to 34 percent in 1980 (Table 15). In Turkmenistan, the urban proportion was the same in 1979 as in 1970 (48 percent).

Despite the slow rate of urbanization in the southern republics, their share of the urban population of the total country has increased in the past three decades. As a result of natural increase, net in-migration from rural areas, and reclassification of rural areas as they meet the definition of an urban place, the national total of people in urban areas increased from 73 million in 1950 to 169 million in 1980. Of these totals,

Table 15. Urban Population, USSR and Republics: 1950, 1960, 1970, 1980

(Data as of December 31, in percent)

USSR and republics	1950	1960	1970	1980
USSR	40.2	50.1	57.0	63.4
Slavic republics				
RSFSR	44.6	54.9	63.2	70.5
Ukraine	36.1	48.3	55.3	62.7
Belorussia	22.2	33.8	44.7	57.4
Moldavia	17.5	23.9	32.4	40.9
Baltic republics				
Estonia	49.6	57.8	65.6	70.5
Latvia	46.9	57.6	63.0	69.4
Lithuania	26.7	40.0	51.4	62.6
Transcaucasus				
Armenia	44.0	51.4	60.0	66.3
Azerbaydzhan	45.0	49.3	50.3	53.4
Georgia	36.3	43.4	48.1	52.4
Kazakhstan	39.3	44.5	51.2	54.9
Central Asia				
Kirgiziya	28.5	34.8	37.7	38.8
Tadzhikistan	27.3	34.4	37.3	34.3
Turkmenistan	38.3	47.4	47.8	47.8
Uzbekistan	30.7	35.2	36.5	40.2

Sources: TsSU, *Naselenye SSSR 1973*, pp. 10-13, and *Nar. khoz.*, various issues.

Table 16. USSR Population 1980-2000: Projections of 1977 and 1982

(Numbers in thousands)

Year	March 1977 projection			May 1982 projection		
	Total population	Increase in preceeding 5 years	Annual growth rate (percent)	Total population	Increase in preceeding 5 years	Annual growth rate (percent)
1980	265,049	11,788	0.9			
1985	277,743	12,694	0.9	275,416	10,930	0.8
1990	289,206	11,463	0.8	284,552	9,136	0.7
1995	299,086	9,880	0.7	291,556	7,004	0.5
2000	308,050	8,964	0.6	297,464	5,908	0.4

Sources: Baldwin, *Estimates and Projections, 1970-2000*, 1979; and unpublished estimates and projections prepared by Foreign Demographic Analysis Division, U.S. Bureau of the Census, May 1982.

the proportion in the Slavic republics (RSFSR, the Ukraine, and Belorussia) dropped from 84 percent to 80 percent. The share of the four Central Asian republics and Kazakhstan went up from 8 to 11 percent, largely due to the in-migration of Russians and other non-Muslims to the region's cities, especially capitals of the republics, to fill the jobs requiring skills lacking among the native peoples.

Emigration

An interesting sidelight of Soviet demographic history since World War II has been the emigration of certain groups granted permission to leave the otherwise closed country on grounds of family reunification. At first only a trickle, the numbers involved rose substantially during the detente of the 1970s. Most were Soviet Jews issued exist visas to join relatives in Israel.[76] Totaling about 260,000 since October 1968, Jewish emigration peaked at over 50,000 in 1979, but dropped with the cooling of Soviet foreign relations following the invasion of Afghanistan in late 1979. Only 900 were allowed to leave in the first three months of 1982.[77]

Despite this drastic cutback, the principle of family reunification has not been formally abrogated. Ethnic Germans—largely descendants of Germans invited by Catherine the Great 200 years ago to improve agriculture in the lower Volga region—have also invoked this principle in order to emigrate to West Germany. Some 80,000 to 90,000 ethnic Germans have left the Soviet Union since 1970, although their numbers were cut to an estimated 4,000 in 1981.[78]

Armenians have also been allowed to leave the country. Formerly more Armenians moved into the Soviet Union than left, but now the net flow is in the other direction. Some 15,000 Soviet Armenians currently live in the U.S.

In all, 350,000 to 400,000 people have been allowed to emigrate since World War II. The number is trivial in relation to the country's current 270 million population, but a precedent has been set for possible emigration of these and perhaps other ethnic groups in the future.

Future Prospects and Projections

What lies in store for Soviet population trends in the remainder of this century? Will the national fertility rate turn up and the mortality rise of the past decade and a half be reversed?

In this writer's opinion, overall fertility is not likely to increase markedly, despite the recent efforts of the central authorities, and the Russian share of the total population will probably con-

tinue to drop while that of Central Asian Muslim peoples increases. This does not rule out declines in the Muslim population's fertility rates, but the declines will not match those of the Slavs, especially the Russians. As for mortality, the rise in the national death rate has been surprisingly consistent and long-lasting, and beyond the rise to be expected with the gradual aging of the country's population. A study of current health problems in the Soviet Union, and the availability and allocation of medical supplies, facilities, and personnel reveals a situation that does not promise improvement in health-care delivery and the nation's health in the near future.[79] If the health sector is neglected, the adverse mortality trend which has resulted in a major reduction in the life expectancy of Soviet males may persist.

Although the Soviet population growth rate has slowed since 1950 (see Table 1, page 10), demographers were unprepared for the size of the drop in the 1970s, produced by the combined effect of the accelerating decline in the national crude birth rate (in the 1960s) and persistent rise in the death rate (since 1964). This has inevitably affected projections of the size of the national population (and of the republics) in the year 2000. In March 1977, it was projected that the total population in 2000 would be 308.1 million. In May 1982, the figure was projected at 297.5 million—10.6 million lower (see Table 16). Both these figures are very much lower than the projections made by the Soviet Central Statistical Administration after the 1970 census results became available. These were in the range of 340-350 million, and were still used by urban transport planners as late as 1976.

One of the most instructive summary measures of the consequences of demographic phenomena is the rate of nat-

Table 17. Estimated and Projected Rates of Natural Increase, USSR and Republics: 1950-2000

(Natural increase = births minus deaths. Rates per 1,000 population)

USSR and republics	1950	1960	1970	1980	1990	2000
USSR	17.0	17.8	9.2	9.4	7.1	5.5
Slavic republics						
RSFSR	16.8	15.8	5.9	6.1	2.7	1.5
Ukraine	14.3	13.9	6.3	4.9	2.6	1.5
Belorussia	17.5	17.8	8.6	8.4	6.3	3.8
Moldavia	27.7	22.9	12.0	11.7	7.9	5.4
Baltic republics						
Estonia	4.0	6.1	4.7	2.6	1.4	0.9
Latvia	4.6	6.7	3.3	1.4	0.5	- 0.1
Lithuania	11.6	14.7	8.7	6.3	5.8	3.7
Transcaucasus						
Armenia	23.6	33.3	17.0	18.8	14.3	10.2
Azerbaydzhan	21.6	35.9	22.5	20.6	20.0	13.3
Georgia	15.9	18.2	11.9	11.0	8.9	6.3
Kazakhstan	25.9	30.6	17.4	17.6	14.2	10.0
Central Asia						
Kirgiziya	23.9	30.8	23.1	23.6	21.0	16.3
Tadzhikistan	22.2	28.4	28.4	29.2	26.2	20.2
Turkmenistan	28.0	35.9	28.6	27.3	25.1	19.6
Uzbekistan	22.1	33.8	28.1	28.7	26.3	21.1

Source: Based on Baldwin, *Estimates and Projections, 1970-2000*, 1979, pp. 13-14, 25-57

ural increase—annual births minus annual deaths per 1,000 population. Table 17 (page 39) shows these rates as reported or projected for the country as a whole and the 15 republics over the second half of this century. The rates for 1980, 1990, and 2000 are based on the projections of 1977 and may thus be too high. Nevertheless, the very low rate of 1.5 per 1,000 population (or 0.2 percent) projected for 2000 in the two largest Slavic republics (RSFSR and the Ukraine) is only one-fourteenth the size of the rate projected for Uzbekistan—21.1 per 1,000 population (or 2.1 percent). The lowest projected rate among the six Muslim republics is 10.0 per 1,000 for Kazakhstan. Soviet authorities must be seriously considering the policy implications of these differentials. However, measures they may initiate now in an attempt to change the picture will make most of their impact only in the 21st century. Thus, for example, even if Russian women were suddenly to increase their fertility rate in 1983, their newborn sons would join the cohort of military draftees only in 2001 and enter the labor force two or more years later. Meanwhile, children aged 0-9 in the six Muslim republics are currently expected to be a very large proportion of all children that age in the year 2000. As adults, they are likely to maintain fertility rates significantly higher than Russians and other Slavs. Thus the growing share of Muslims and declining share of Slavs in the Soviet population, already viewed as a problem by the Russian-dominated national leadership, can only be exacerbated in the future. If the leadership agrees with this conclusion, they must be devoting considerable attention to demographic issues to which they had given low priority for many years. □

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